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East Europe Report

ECONOMIC AND INDUSTRIAL AFFAIRS

No. 2172

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CSSR INTERNATIONAL RAW MATERIAL, GOODS TRADE

Prague HOSPODARSKE NOVINY in Czech 17 Jul 81 pp 8-9

/Article by Dr Jana Sereghyova, CSc., Economic Institute of the CSAV /Czechoslovak Academy of Sciences/7

> /Text/ In view of the more or less open door policy in economic relations pursued by our country, recent trends involving goods traded by us prevailing on international markets cannot but have a vital effect on the economic efficiency of our entire reproduction process. The impact will be reflected not only in conditions governing our economic relations with countries other than those in CEMA but to a large degree also in the assortment of goods traded and the growth rate of our trade with the other CEMA countries.

Fuels

The very fact that roughly 40 percent of our fuel and energy needs still must be met by imports is proof that the conditions governing these imports will continue to affect future economic growth in a decisive way.

The gist of the problem is the enormous increase of world crude oil prices which rose more than 18-fold in the course of the seventies. True, the impact of this price shift on our economy was largely mitigated by the fact that most of our oil imports come from the Soviet Union which--in accordance with pricing principles governing trade between CEMA member states--supplied us oil at prices which, especially after 1979, were less than half the then prevailing world market price.

On the basis of preliminary calculations, it was assumed that as of 1981--due to slower increases of Soviet oil deliveries--an increasing volume of our crude oil imports will have to be acquired in developing countries. Due to accelerated intensification of coal mining and the initial success in implementing the Long-Term Conservation Program for Rationalizing the Consumption and Use of all Types of Fuel and Energy the need for imports was reduced to a point where Soviet deliveries to a large extent will meet our requirements till 1983. In this way, the need to import an increasing volume of our oil consumption at world market prices was postponed by several years which represents an important saving for our national economy.

Nevertheless, the expenditures for imported fuel resources must be expected to begin rising as of the beginning of the eighties onward. For one thing, the increases in world market oil prices which occurred in the past decade will gradually be reflected also in the contractual prices for oil deliveries from the Soviet Union. In addition, we will have to share the costs connected with gaining access to and opening up some new fuel deposits, primarily in socialist countries. But the granting of long-term intergovernmental credits is also becoming the key to assuring a stable flow of oil from developing countries and this element will gain in importance from the second third of the eighties on. Thus, the multiple price increase of imported oil must be augmented by considerable capital and credit costs which will help broaden our sources of supply both within and outside CEMA.

The future development of world market oil prices is difficult to predict, among other reasons, because the multiple price increase of the late seventies was caused mostly by other than economic reasons (primarily as a result of the conflict between Iran and Iraq). Considering that the resource at issue will run out as early as the beginning of the next century and that many developing oil-producing countries are already curtailing production increases and soon can be expected to use increasing quantities of their oil as raw material in their newly established petrochemical plants, the probability that oil prices will continue to rise appears credible.

By the end of the eighties the importance of our oil imports serving energy production will probably decline gradually. Not only will the generating capacity of our nuclear policy industry increase considerably by then but some vital projects of the Unified CEMA Energy Program will also be completed which will enable us to draw vast amounts of power from nuclear power plants built (partly with our capital participation) on the territory of the USSR. But as soon as the new capacities of our petrochemical industry come on line, oil import needs will rise. The changed conditions under which these imports will have to be effected will, therefore, continue to constitute a heavy burden for our economy. The new uses for oil--its application in the petrochemical industry--will allow us to compensate for the increased expenditures connected with these imports.

Metal Ores

The relatively high needs of our engineering industry and the considerable proportion of ferrous and nonferrous metallurgical products of our industrial production--which, with its roughly 11 percent, is among the largest in the world--continues to consume ever new massive imports of ferrous and nonferrous metals. Their future price development on world markets will constitute another important factor which will affect the efficiency of our production and its integration into the international division of labor.

Most ore deposits situated near population centers or near the seashore will soon be exhausted and as a result in the course of the eighties such imports must be expected to at least double in price as a result of vastly increased transportation distances from faraway deposits. Here too, financial participation in opening up new deposits will probably be required potentially also for establishing the infrastructure needed to open up new resources in uninhabited regions.

In the Soviet Union, which currently supplies roughly 83 percent of our import needs of iron ore and roughly three-fourths of our imports of most nonferrous metal ores, new capacities are being opened in time before increased domestic consumption of metals overtake supply; this concerns mostly only the requirements of CEMA countries which, therefore, readily participate in financing these capital projects. This capital participation assures us deliveries of these ores above the scope of existing trade agreements. Therefore, these investments will enable us to receive these mining products in the course of the eighties mostly from the USSR, which is in our interest not only because such deliveries can be paid for in clearing but also because such trade protects us from speculative price fluctuations when these products have to be purchased from developing countries or on the free market.

But the need of capital participation arises also in dealings with developing countries because many of them lack the capital necessary for investments and those able to procure the necessary means prefer to invest them into industrial projects. Amortizing the capital invested in mining usually takes longer and such investments are seldom free of risk. To the extent to which our ore import needs--mainly of nonferrous metals--will exceed the supplies received from the Soviet Union and the other CEMA countries we will also have to accept these risks and offer credits or capital in return for such imports, which will raise their cost to us above the expected increases of world market prices.

It is worthy of note that of all mining products, world market prices of iron ore have risen relatively least, only somewhat more than twofold, which is due to the existence of extensive and, within the foreseeable future, inexhaustible iron ore deposits indicating that this trend is likely to continue also in the eighties. But the world market prices of most nonferrous metals ores have risen much sharper in the seventies reaching the three- and even fourfold level of their initial price. But this trend can hardly be considered representative of the decade ahead because it was influenced to no small degree by the crisis gripping the economies of the capitalist states for the seventh year in succession. Should the expected rebound occur in the economies of these states in the second half of the eighties then the world market prices of these products are likely to rise at a faster rate also because the attempts of the principal developing producer countries to coordinate their price policy on world markets will not only result in their stabilization but in a continued rise in the prices of the mining products they export. But such a price shift would not be reflected in the mutual exchange of goods between CEMA countries until the beginning of the nineties so that in this decade only the continuation of the rising trend in prices of mining products is to be expected.

The consequences of the above increase in the price of an important proportion of the raw material and energy input into our production process could easily be overcome if the world prices of industrial products--amounting roughly to four-fifths of our overall volume of exports--rose at the same rate or even faster than their production-cost increases due to our need to import mineral raw materials and fuels (which was so till the middle of the seventies). But the world market prices of industrial products kept increasing at a much slower rate till 1977 so that they barely doubled between 1970 and 1977.

The world market prices of industrial products began to rise faster only as the end of the seventies. But this faster price increase was not uniform and varied with the type of goods and even with their individual modifications.

Since then a similar differentiation has also taken place in the conditions governing the purchasing and sale of individual types and models of industrial goods, in the requirement to sell goods on credit, in demand, etc., which are as important as the price for the prospect of our foreign economic relations.

Engineering Products

For our economy, which pays for roughly half of its hard currency imports with the export of engineering products, the impact these new trends have had on international trade is of crucial importance. As early as in the mid-seventies a number of products began rising in price at almost the same rate as mineral raw materials. But such prices are--and continue to be--achievable only for machines and instruments serving the purpose of reducing the consumption of materials or energy or for those designated to raise markedly the efficiency of production equipment and possibly also for installations representing advanced technologies or designed for the production of goods of advanced characteristics.

In the past, the price increases of such machines and instruments made up largely for the average increase in the cost of engineering products which at the end of the seventies and the beginning of the eighties already amounted to almost 20 percent a year. But included in this price increase were also some conventional machines and mechanisms and even some types of engineering consumer goods classified as innovatory of a lower order. But these included only technically highly advanced and reliably functioning models which in addition were properly serviced. The prices achievable for other engineering products, i.e., those which do not meet the highest standard in all respects, continue to advance much slower and frequently the price gains do not even make up for the inflated prices prevailing on capitalist markets. The prices of such products actually stagnate or even decline slightly.

But exporters of such low-quality or technically already obsolescent products currently face not only the unfavorable ratio between rising production costs and stagnating sales prices, but are also losing their markets.

In developing countries, this is due primarily to a shift of demand toward high-performance equipment which at the same time is economical in material consumption to compensate for the increased cost of energy and materials; this is their only means of overcoming the discriminatory practices which capitalist countries are beginning to introduce in their endeavor to reduce imports.

In addition, developing countries which do not have oil to export will soon find it difficult to pay for imports--as is clearly becoming evident already--and this will limit their future imports to complete capital projects sold on long-term credit, which for the seller is fraught with considerable risk and forces him frequently to refinance such sales on financial markets. Therefore, exports to these countries will continue to mean not only higher production but also nonproduction costs which exporters of this category of engineering products are usually unable to make up for fully by the prices they are able to get, which are usually low.

On CEMA member state markets, export possibilities for engineering products other than those of highest technical quality and economic value are waning primarily as a result of the transition of most of these countries to high-performance production methods. This means that each capital project must meet the world standard and the envisioned modernization of production equipment, reflect the latest state of the art in scientific and technical respects to permit not only increasing their efficiency further but also producing exportable goods economically with respect to material and energy inputs.

Socialist manufacturers able to satisfy the increasing demand for production equipment meeting the above high standard enjoy tremendous export opportunities and are probably also able to achieve higher prices for their products. This is so even though in the coming five-year plan these states are expected to slow down somewhat their capital investment activity which will probably be reflected in lower imports on their part. On one hand, the still relatively high percentage of imports of engineering products which these states buy on capitalist markets but, on the other, their endeavor to increase purchases of engineering products made in socialist countries offer suppliers of such products even under these conditions considerable opportunity to increase their volume of business further. But this is contingent on their ability to supply products and guarantee their servicing as the world's leading manufacturers are able to do and comply with the same short delivery times and other conditions, as well as on their ability to keep pace with frequent technical improvements which are now routinely taking place in all advanced engineering sectors.

While in trading with partners in socialist countries meeting the above conditions may be the key to a desirable increase of the volume of business, in exports of engineering products to advanced capitalist states the achievement of the above standards is an absolute prerequisite for doing business. In the case of production equipment, this is so primarily because, what with present higher than normal expenditures connected with individual production processes, losses caused by low technical and economic performance standards (whether manifested by frequent breakdowns, poor servicing equipment or abnormally high consumption of materials or energy) are so high that they cannot be made up by price concessions. Therefore, such production equipment is unsalable. These criteria may not be as strict in the case of machines and instruments destined for smaller manufacturers or in the case of engineering consumer goods, but the price concessions needed to compensate for even the smallest shortcomings are such that the desirability of exporting such products becomes questionable.

Of course, in the years ahead engineering products satisfactory in all respects will also become harder to sell on the markets of advanced capitalist countries. The low level of economic activity caused by the crisis has not only intensified competition between West European, American and Japanese engineering firms as never before but has also increased their adaptability of requirements of individual customers and the frequency of offering ever new innovations. In addition, the endeavor of these concerns to run their plants at full capacity has induced them to supplement their production programs with a number of technically less demanding products whose production they used to leave to their competitors.

It is becoming obvious that in the years ahead exporters of engineering products will meet up with stiff competition in all their markets and that they will be able to hold their own both on socialist as on capitalist markets only if they are able to fulfill all requirements.

Metallurgical Products

In the international trade with iron metallurgy products--which occupy an important place in our export assortment, amounting to almost 10 percent of our overall exports--exporters have had considerably smoother sailing so far. Over the past 10 years, the price level of all these products has moved up roughly in concert with the price of iron ore. Seemingly these are goods which were affected by the "inversion" of the price shears (i.e., by the advance of the increase of raw material prices over the increase of the price of industrial products) only minimally.

Analysis of past development of prices of individual types of metallurgical products discloses that the sustaining element of this favorable price trend was the marked rise in the price of the most sophisticated products (valuable alloyed steels, thin electroplated sheet metal, microminiaturized bearings, etc.), while the price of crude iron and basic steel products--whose production requires the highest energy input--manifest only a slight lead over raw material and energy costs. It is hard to tell whether the upcoming price increase of energy resources will result in a further curtailment of this lead or in a rise in the price of these products. But the fact that demand continues strong on the markets of both socialist and capitalist countries indicates that the trend is more likely to point in the latter direction.

Fast economic growth and especially the accelerated development in the construction and engineering industries which continued throughout the past decade in all CEMA member states created an unlimited market for products of both metallurgical categories. Increased emphasis on the qualitative aspect of production requirements and on material economy in the engineering industry as well as the endeavor of these states to substitute purchases previously made on capitalist markets with products made in socialist countries may lead in the eighties to a shift of demand to technologically more advanced products (which is even more likely to happen because capital projects started in the past five-year plan will strengthen self-sufficiency in basic iron metallurgical products in most of these countries).

In the decade ahead, the market potential for these products is also promising in developing countries because with the progress of the industrialization process the consumption of metallurgical materials whose technologically more advanced products these countries are not yet able to produce themselves usually also rises.

But assessment of the future market outlook for both categories of these metallurgical products in advanced capitalist countries cannot be based on their current market situation because these countries are importing vast and increasing quantities of crude iron and basic steel products irrespective of the fact that an important part of their domestic production facilities continues to be idle. This is so because importing these products frequently appears to be cheaper than producing them in view of the high expenditures for raw materials and energy required for their production.

But it may be that melting processes achievable with a lower energy input which are being introduced in these countries will soon strengthen the competitive position of their own metallurgical production which would curtail the need for imports. To what extent foreign importers could retain their share of the market under such conditions will depend, on one hand, on the size of price concessions they would be willing to grant and on trade restrictions affecting the import of metallurgical products which are beginning to be applied with increasing frequency in most West European countries even now.

Should the situation in iron metallurgy of the advanced capitalist states develop as indicated above, then the best market prospects will also be here for highly refined metallurgical products. But their salability in these countries will depend--even more than elsewhere--on the ability of foreign suppliers to deliver them not only at a cheaper price than domestic producers but also in the same wide assortment and workmanship. It appears that especially in the long run the market potential for exporters of metallurgical products on all their markets will depend increasingly on their ability to satisfy the demand for specific characteristics of highly refined metallurgical products which as a result of fast-moving technical progress in related industrial branches are becoming progressively more sophisticated.

Chemicals

Similar changes are also noticeable in the international trade of petrochemical products which have always played an important role in the Czechoslovak foreign trade balance. While in the past they figured mostly as important import items, in the seventies they have also become an important part of our export assortment.

Worthy of note is the anomalous development of world market prices of these products in the past decade due primarily to the multiplication of the prices of products based on distillates, especially on fuels and primary gasoline, which occurred immediately following the "price explosion" on the international raw-materials market. In contrast, prices of products made from secondary or tertiary oil-processing fractions--for example, the prices of ethylene, styrene, butadiene etc.--increased over the years considerably slower than the price of the raw material used for their production (which was also the cause of the downfall of many capitalist concerns, especially of those which were not part of oil monopolies).

It was not until 1978 and 1979 after oil import prices doubled again that the largest West European chemical concerns began restricting competitive business practices, which in the course of several months resulted in a 30 to 80 percent increase of world prices of the above-mentioned petrochemical products. But a continued rise in the price of these products is being kept down by the possibility of producing many of them from other cheaper raw materials (for example, from condensates of natural gas, from coal, etc.) and also by the fact that they are also beginning to be produced in developing countries, whose enterpreneurs usually are content with lower profits.

In OPEC countries, the establishment of such enterprises is motivated primarily by their effort to replace the export of oil by the export of basic petrochemical products to drive the oil monopolies from the exclusive positions which they still occupy in primary oil processing. But in the other developing countries petrochemical enterprises are frequently being established by chemical companies of advanced industrial capitalist states which are thereby transferring to these countries the environmentally harmful part of their production programs. Therefore, many traditional exporters of the above-mentioned products will become their importers. Thus, a new market will be opening up in these countries, a market which may not even be affected by continuing weak consumption. But it must not be overlooked that this favorable outlook for exports of the above categories of petrochemical products is in no small measure due to the fact that--because of the above realities--many of these products have become low-profit export items.

Smaller CEMA member countries will obviously trade petrochemical products by exchanging assortments leaving out the technologically simpler compounds. On the basis of bilateral and multilateral agreements on specialization in the chemical industry concluded between these states and the Soviet Union, these products will then appear mainly among their import items because in the near future the Soviet Union will become the most important supplier of power and of material-intensive petrochemical products within the CEMA community. This solution helps the other member states achieve large-scale economies by freeing them from the need to procure for their petrochemical production raw materials in short supply, which gives them at the same time the advantage of being able to pay the Soviet Union for these products with their advanced chemical products whose manufacture requires less valuable materials and smaller energy input and which command higher prices.

In the international trade with chemicals, ever more advantageous prices are being paid for highly refined products produced currently by sophisticated technologies developed by research. Such petrochemicals are, for example, variously shaped synthetic fibers, high-strength plastics usable as construction materials in lieu of metals for engineering and construction purposes.

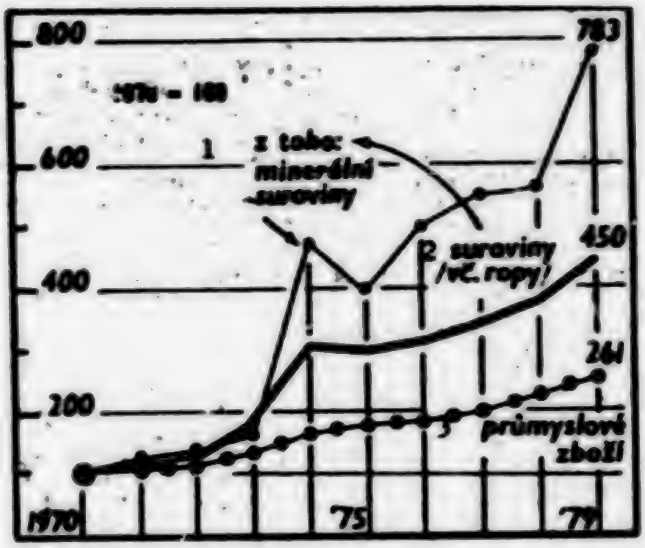
Advanced chemical products already command prices exceeding by a multiple their material costs and their prices are likely to continue rising.

It need not be stressed that the socialist world market where some of these products are still in short supply offers unlimited opportunities. But here as on capitalist markets the prospects of their producers will depend primarily on their ability to keep improving their production processes, which in the seventies has been happening in all advanced chemical production sectors.

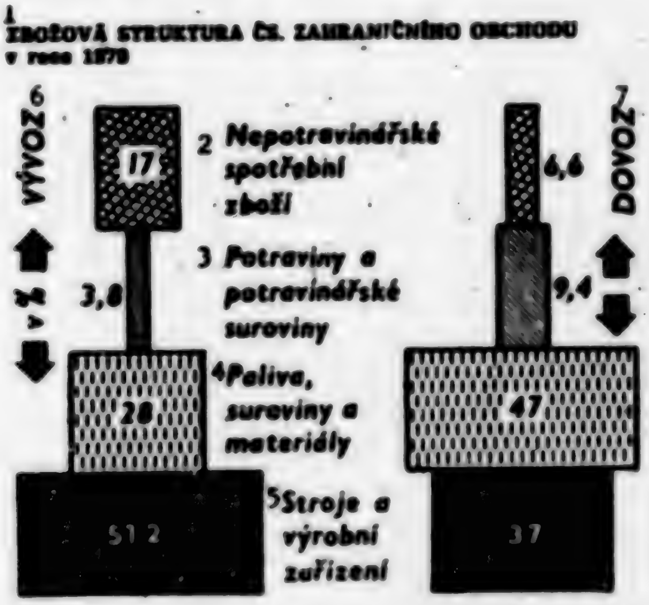
Consumer Goods

Industrial consumer goods constitute another group of products which in the past decade was more strongly represented in our export assortment (about one-sixth of all exports at the end of the seventies) and constituted one of our principal means of payment in reciprocal trade relations, for example, with the Soviet Union and some advanced capitalist countries. Therefore, changed conditions in trading in these goods on international markets are of importance to our economy.

Judging by the recent development of the comprehensive price index of individual types of consumer goods, it is clearly evident that it rose slower than world market prices of raw materials and that for a number of years it has lagged behind even the price-level increase of other industrial goods. This is partly due to the relatively high energy efficiency of these production branches, but this development reflects mostly the accelerated penetration of suppliers from developing countries on the international market. These suppliers usually establish themselves on international markets by making large price concessions, cutting their calculations to the bone which they are able to do because of the relatively low wages paid in these countries and because they frequently process cheap domestic raw materials. This is compounded by the fact that in the past decade these suppliers usually placed such goods on the market before demand for them strengthened which depressed the prices which they could have achieved.



Key:
1. Including Mineral Raw Materials
2. Raw Materials (Including Petroleum)
3. Industrial Products



Key:
1. Product Structure of Czechoslovak Foreign Trade in 1979
2. Nonfood Consumer Goods
3. Foodstuffs and Food Industry Raw Materials
4. Fuels, Raw Materials and Materials
5. Machinery and Production Equipment
6. Exports
7. Imports

But important for future development of the market situation is the fact that these suppliers are able to hold their own only in disposing of lower quality consumer goods and even when they are able to meet basic quality indicators they are usually incapable of keeping pace with fast changes in fashion, innovatory assortment changes or changes of characteristics of given types of goods. They compete only with suppliers exporting assortments and products of the same quality while suppliers offering more sophisticated, fashionable or otherwise better products are usually commanding higher prices. This is also manifested by the widening span between the lowest and highest per-kilogram price achievable in international trade for the same type of consumer goods which in the case of items of daily use fluctuates between triple and quintuple the basic price and, in the case of durable consumer goods, amounts to differences of up to an order of magnitude.

Everything indicates that demand for consumer goods will continue to grow in both groups of countries to satisfy the rising expectations of their populations. Therefore, exporters flexible enough to use the trend fostering innovation which their material and engineering base allows who are able to keep pace with sudden changes in fashion and consumer habits occurring on all foreign markets, face bright sales prospects. They may be able to sell their goods at profitable export prices approaching and sometimes even surpassing the profits accruing to exporters of technologically less advanced industrial products used for industrial production.

All this leads to the recognition that the differentiation which took place at the end of the seventies and the beginning of the eighties on international markets in the trade of industrial goods is characterized primarily by the fact that world prices and the marketing potential for technologically less advanced mass-produced products are rising slower than the prices of most raw materials and fuels required for their production while the price levels and the marketing potential for products exhibiting characteristics in high demand--especially innovations of a higher order--are already rising at faster rates.

The consequences of the "price explosion" in the international trade in raw materials which till the end of the second third of the seventies plagued the economies of all countries exporting predominantly industrial products are, therefore, currently being increasingly felt by exporters of industrial products of lower technological standard primarily of functionally or quantitatively inferior products while exporters of industrial goods of top quality and latest design are able to weather the impact of these changes on international markets.

Therefore, qualifying for the second of the above two groupings would offer Czechoslovakia the best opportunity for overcoming the deleterious impact which the above changes on international markets of the various types of goods have had on our economy. The increase in lead time between expenditures for material and fuel inputs into our reproduction process and the amount of hard currencies which can be earned by exporting part of these inputs achievable in this way represents one of the most effective economy measures for raising the export potential of our economy primarily by increasing the value of our exports without an excessive increase of raw material inputs and imports required by our production of exportable goods.

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STATISTICS PROVIDED ON HOUSING CONSTRUCTION, RENOVATION

East Berlin PRESSE-INFORMATIONEN in German No 51, 7 May 81 pp 1-4 of supplement

[Article by press office, Chairman, GDR Council of Ministers: "Housing Construction Program--Cornerstone of the Social Policy of the Working Class Party"]

[Text] At the beginning of the 1970's the SED decided to solve the housing question in the GDR as a social problem following a long-term program lasting until 1990. This task was destined to become the cornerstone of the social policy of the working class party. At the Ninth SED Congress it was included in the SED's program. The 10th SED Congress decided to continue the housing construction program in such a way that the established goals are unconditionally achieved and the people's housing needs are satisfied in the best possible manner with the funds used. In the process, construction, renovation and maintenance are developing into an increasingly more solid unity. The good results in this sector make it possible for the advantages of socialism to emerge in an increasingly clear manner.

Important material prerequisites for a socialist way of life are created by the construction of dwellings and the appropriate social facilities, by city planning and by better design of villages and settlements. Good living conditions are consonant with the essence of the mature socialist society, they promote happy family life, the social activity of the citizens and activity at work which is full of initiative.

Much Was Achieved, Much Remains To Be Done

In the proclamation of an Election by the National Council of the GDR National Front there is this statement: "Noticeable for millions are the results of our housing construction program which was and is the cornerstone of our social policy. More dwellings, schools, kindergartens and day nurseries, places of culture, sport and recreation were developed than in any previous 5-year period. Our cities and communities became more comfortable. Historical house-lined streets were restored, our social heritage is lovingly nurtured."

In the past 10 years the living conditions of 4.2 million citizens improved--thus, for every fourth person in the GDR. The scope of housing construction doubled between 1971 and 1980. In this period 1.4 million dwelling units were built new or renovated. In all, in the past decade approximately M100 billion were spent for comprehensive housing construction in which more than 200,000 individuals involved in construction are active. In 1980, for example, 10 percent of our total national income was funneled into this sector.

The directive by the 10th SED Congress concerning the Five-Year Plan for development of the GDR economy in the period 1981 to 1985 provides for the new construction and renovation of 930,000 to 950,000 dwellings. This will create better living conditions with stable rents for an additional 2.8 million citizens. Thus, for example, all newly built dwellings in 1980 are equipped with a hot water connection, an indoor toilet and bath or shower stall. Some 96 of every 100 new dwellings have central heat.

The dynamic development of our housing construction substantially increases the housing inventory. There will be above average development of housing construction in the next few years in those areas where there are the greatest housing problems to be solved. This applies to Berlin, the capital of the GDR, Karl-Marx Stadt, Leipzig, Dresden and Halle Bezirks. At present in the GDR there are about 6.7 million dwellings. When we figure the balance in 1990 about how the housing construction program was fulfilled, the credit side will then show about 2.8 to 3 million new or renovated units. That is 45 percent more dwellings than existed in 1975.

This is guaranteed by the steadily increasing performance capability of GDR construction. From 1976 to 1980 investments amounting to M13 billion were made in construction. This is M3 billion more than in the previous 5-year period.

The readiness of the working people to contribute with their own efforts and financial resources to improving living conditions continues to be supported. From 1971 to 1975 about 125,200 dwellings were created by cooperative housing construction; between 1976 and 1980 the number was 197,480. For the period 1981 to 1985 it has been determined that the share of the dwellings to be built for workers housing construction cooperatives will amount to 42 to 45 percent of industrial housing construction.

The Social Character of the Housing Construction Program

In the GDR today every fourth citizen lives in a dwelling which was built new or renovated in the past 10 years. At the seventh construction conference Erich Honecker, general secretary of the SED Central Committee and chairman of the GDR National Council, stressed the fact that "as part of the totality of our economic and social policies the successes in housing construction are advantageous to the people's social safety, security and confidence in the future." It is in keeping with the character of our social order that two-thirds of new housing construction was allocated to workers' families. A family with many children occupied every 10th dwelling, every 5th one was given to young married couples.

The deeply social character of the housing construction program is also expressed in the fact that the state assumes the largest part of the cost of building and maintaining residential structures. Stable and low rents are among the most important principles of the housing policy. Rents will not be raised in the 1980's, either. Thus, their share in the family budget will steadily decline as a result of the annually increasing real income of the citizens. At present it amounts to 3 to 5 percent. In the construction of owner-occupied housing, which is particularly for the benefit of workers and families with many children, credits on the conditions of repayment in the future are also allowed which place no greater burden on the residents than the rent for a comparable dwelling.

The GDR is among those countries which give special attention to the maturing generation. The housing construction program is also typical of this fact. With the creation of 54,829 places in day nurseries and 91,122 in kindergartens, the goals of the 1976-1980 Five-Year Plan were exceeded by 16 and 20 percent, respectively. In the education sector, a total of 16,208 new instructional rooms and 735 new school gymnasiums have become available since 1976. Today every third pupil is given instruction in a new school which was built after 1971.

The goals which are being pursued until 1985 with the construction of social facilities are impressive. The plan calls for 13,200 to 13,500 instructional rooms, 750 school gymnasiums, 120,000 places in kindergartens and 50,000 to 60,000 in day nurseries, 18,000 to 19,000 places in retirement and nursing homes and 18,000 to 21,000 places in residential buildings for older citizens. Beyond this, in line with the state normative provisions for spending, the food, cultural, service and sport facilities, stores and medical facilities essential in residential areas are being built.

The antisocial and inhumane housing policy in imperialist countries is in complete constrast to the high achievements of our socialist state which are directed toward the welfare of the people. In the FRG the renter pays, for example, an average of 15 percent, in large cities even 25 percent and more of his net income for a dwelling with normal equipment. In addition, there are the steadily increasing heating costs which are not included in the rent.

In contrast to our great efforts to solve the housing problem there is in many imperialist countries, including the FRG, a decline in the construction of new housing. It is expressed by a growing housing shortage. Especially families with many children and older people must suffer from this. By way of contrast, vacant dwellings in many large cities are again the cause of protest by the largest sectors of the population. They are an expression of an unrestrained striving for profit, an expression of land and rent speculation by private home owners which mocks the interests of the working population.

GDR Capital--Largest Construction Site in the Republic

With the realization of the housing construction program the face of the GDR capital Berlin has undergone fundamental changes in the past few years. To an increasing extent it measures up to the functions of the political, economic and intellectual-cultural center of the republic. Between 1976 and 1980 81,428 dwellings here were built new or renovated. During the period 1981 to 1985 100,000 dwellings are to be created, including 65,000 new ones and 35,000 renovations. Chief sites for new construction are Berlin-Marzahn, the Street of Liberation, Hohenschoenhausen-Nord and Kaulsdorf-Nord. In Berlin-Marzahn, currently the GDR's largest area of new construction, almost 40,000 dwellings will have been built by the time of its completion in 1984. In the future there will also be intensified new housing construction in the downtown area. In this way 4,000 dwellings will be built on vacant sites and in spaces between buildings. That is an additional important step toward perfecting the structure of the city.

Citizens of Berlin and their guests from all parts of the republic spend rewarding hours, for example, in social facilities which have come into being since 1976. The most important of these include the Palace of the Republic, the Pioneer's Palace and the sport and recreation center which was completed just a few weeks before the 10th SED party Congress. On any day about 18,000 visitors relax there at sports and games.

As the capital, Berlin's share in GDR construction increased from 817 percent in 1975 to 9.9 percent in 1980. In developing the city, construction worker collectives from all the bezirks in the republic make a big contribution. From 1976 to 1980 they completed construction amounting to M5.2 million. Among other things, they completed 4,893 new dwellings and 33 small department stores.

The housing construction program encompasses the entire republic. In the past few years large new residential areas were developed, primarily in the bezirk cities. This created important prerequisites for restoring, to an increasing extent, the traditional city residential sectors. But also in smaller cities living conditions for the citizens are being improved. This in quite apparent in Anklam, Rathenow, Nordhausen and many other cities.

City Planning Quality Being Improved

The tasks of the housing construction program also include achieving a higher level of quality in city planning. While in the past few years considerable emphasis was placed on creating new residential areas, in the future to a greater degree the city is to be further developed as an economic and cultural entity. Construction policy is based on the fact that our standard of living is basically determined by comprehensive and harmonious development of all functions of the city--living, working, culture and recreation--and a meaningful combination of them. This is how extensive areas of new construction come into being which are characterized by appropriate, characteristic design. Residential complexes in the GDR capital Berlin Rostock, Frankfurt/Oder, Cottbus, Potsdam, Erfurt underscore the fact that it is more successful to combine efficient industrial construction with architectural variety and the possibilities for comprehensive satisfaction of needs.

Since July of last year more than 200 development plans for residential areas have been revised in the GDR in order to guarantee that, with the means used, the best possible results are achieved. Accordingly, it was possible to start additional construction of approximately 20,000 housing units without impairing the city planning solutions--5.5 percent more than initially planned. Some 240 hectares of valuable building land are thus preserved. Moreover, about M280 million of investment, which would be needed to develop new land for building, are not being used.

Higher Living Quality Through Renovation

Residential buildings in our republic and the construction-based facilities that are part of them represent a value of M170 billion, 28 percent of the current value of the basic assets of our economy. They must be maintained and cared for. In respect to the use of the people and means available to do this, the basic principle applies: maintain that which is worth maintaining, modernize that which is worth modernizing and renew and supplement that which is no longer usable. Thus, the housing construction program includes new construction, modernization, reconstruction and maintenance as a single entity. Solutions for modernizing and maintaining structures are contained in a plan, passed by the GDR Council of Ministers in December 1980, having to do with developing performance and efficiency in kreis-administered construction from 1981 to 1985.

The extent of the task which must be dealt with in the GDR in this area is also characterized by the fact that at present every second to third family lives in housing whose sanitary equipment does not meet modern needs. Primarily multifamily buildings require a considerable expenditure for repairs because of their high average age.

In the past five-year plan period about 250,000 dwellings were renovated. To renovate a dwelling, including the necessary repairs, the city spent funds amounting to as high as 70 percent of the new value. In the next few years renovation efforts will be concentrated to a greater degree on multifamily buildings in the residential sections in the downtown area. From 1981 to 1985, 330,000 to 350,000 dwellings will be renovated, over 30 percent more than from 1976 to 1980.

While the ratio of new construction to repairs and renovation jobs was about 75 to 25 in the period from 1976 to 1980, in the current five-year plan period it will be 60 to 40. In 1981, in addition to 117,000 dwellings which are to be built new, 57,500 existing dwellings are to be renovated. After 1985 the share of dwellings to be renovated will also rise substantially.

In renovation, primarily those construction measures are implemented which have a great influence on the well-being of the residents. These include, first off, modern sanitary and electrical equipment in the houses and repairs to roofs and chimneys. The multistor buildings in the traditional residential sectors, the workers residential centers of the cities, represent a special problem area.

At present, more than half the dwellings have an indoor toilet, a bath or a shower. Every fourth to fifth dwelling is centrally heated. Four of 10 dwellings have a central supply of hot water and 92 percent of the dwellings have a direct water connection. These good results are also being systematically expanded.

Construction Repairs Increase

The tasks of the over 300,000 individuals involved in kreis-administered construction--state-owned construction enterprises, production cooperatives, artisan enterprises, enterprises of the Municipal Housing Administration and private construction enterprises--include construction repairs. Kreis-administered construction has a basic assets inventory of M2.9 billion. Since the establishment of the GDR approximately M50 billion have been spent to maintain and modernize residential structures. From 1976 to 1980 repairs amounting to almost M14 billion were done on residential buildings. The planned task could thus be exceeded and a part of the backlog demand still existing, which comes as a result of the high average age of the dwellings, could be reduced with specific efforts. However, there is still a rather substantial bottle-neck in roof and facade repairs.

In 1980, M930 million more were made available for construction repairs on residential buildings than in 1976. In these 5 years--from 1976 to 1980--the number of fast repair services has also increased fourfold. These are facilities which handle, on a short-term basis, smaller problems in response to requests by housing communities and the responsible legal entities, respectively. At present there are

800 of these repair services which for the most part are utilized by the VEB Municipal Housing Administration and building management, respectively, or by the workers housing construction cooperatives.

The outfitting costs of a repair service to repair a roof, for example, come to M12,000. Repair services, such as emergency help in the case of modest damage to sanitary, electrical and heating equipment, or mobile joiner's workshops, which go from house to house as a modern construction car and handle requests, were also established. By the end of the current five-year plan period repairs will increase to 125 percent compared with 1980.

The seventh construction conference valued the systematic maintenance of residential buildings and communal facilities as a task of very great political importance. By 1985 1.3 million dwellings are to be repaired. Thus, in this sector twice as much work will be done than in the period 1976 to 1980. The rapid completion of urgent repairs is given a boost by the proposed creation of 400 to 500 additional mobile rapid repair services and average services.

An indispensable prerequisite for achieving an even more rapid increase in output in kreis-administered construction is smoothly functioning product group work. At present, almost all state-owned kreis construction enterprises work together in product groups, 80 percent of the construction PGH [artisan producer cooperatives] and almost 30 percent of the private building trade enterprises and use advanced experiences to improve their own work. In Halle and Magdeburg Bezirks, within the framework of product groups, output comparisons between assembly line collectives are implemented and material exchanges sponsored. Certain basic assets are lent out between the groups.

Construction repairs and modernization projects are especially effective in those kreises in which, in line with the design for developing kreis-administered construction, the advantages of territorial rationalization are extensively utilized. In this respect the kreis construction authorities in Rostock and Schoenebeck are operating in an exemplary manner. Through their organizational work in these kreises productivity-determining machines as well as construction site facilities are jointly utilized. The annual value of cooperation outside the enterprise, primarily in the production of rationalization means and in the perfection of technological processes in the state-owned and private building trade enterprises, amounts on the average to several hundred thousand marks in the kreis.

Join In! Competition--Chief Locus of Citizen Initiative

Every year in the "Join in!" competition construction work of about M2 billion is completed to maintain and beautify residential quarters. In this connection, there are primarily good experiences when the citizens and housing communities become involved in preparing the tasks for repair work in and on the residential buildings. With the involvement of the growing initiative of the people, from 1976 to 1980, among other things, more than 700,000 dwellings were repaired in the "Join in!" competition and in at least 2.5 million dwellings repair jobs were done.

The orderly maintenance of residential buildings is in many respects a reflection of the activity of the local state units and the social organizations. Here is the most important area for the activity of the citizens in the "Join in!" competition. Promoting it systematically is a responsible task, because maintenance of structures is by no means of less importance than construction itself.

Repair support centers also serve to promote and support citizen initiatives. There are approximately 3,000 of these facilities in the residential areas. They supply the people and the housing communities with construction materials and replacement parts that are typical of repairs, they loan hand tools, small mechanical items and equipment for self-help. They likewise implement construction conferences and other measures of acquiring knowledge for independent construction activity in the dwelling and on the residential building. By 1985 approximately 700 to 1,000 additional repair support centers are to be created for the people.

Scientific-Technical Progress in Close Cooperation With the Soviet Union

The increase in output required to realize the demanding construction tasks demands energetic acceleration of scientific-technical progress. The people involved in construction have embarked on achieving more than 50 percent of the production increase using material saved and three-fourths without additional utility energy. Construction costs are to be reduced overall by 15 percent. Solutions are being developed for new housing construction which will make it possible to reduce energy consumption for space heating purposes overall by 40 percent by 1985.

To repair roofs and facades the plan calls for developing by 1985 in all GDR bezirks 1,000 additional technological lines in order to achieve a favorable balance between cost and result in the area of building renovation, too. The goal in the next 5 years is to save, by means of these rationalization measures, costs amounting to M150 million and 20 million work hours.

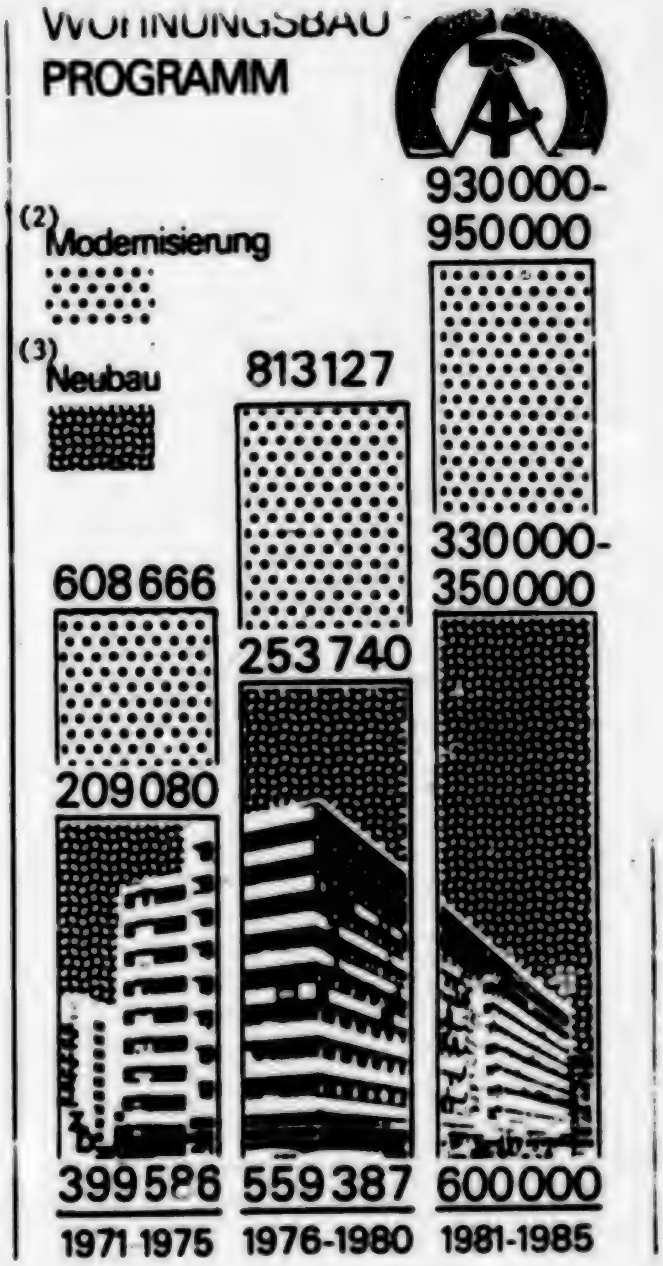
The use of Soviet experiences is of considerable value for the planned acceleration of scientific-technical progress. Thus, in the past few years the scientific-technical cooperation between the GDR and the Soviet Union was concentrated on joint effective and practical solutions for the construction of housing and social buildings, on structures of concrete, steel concrete and metal design and on the development of dense silicate concrete. Thus, construction people in the GDR in Magdeburg and Soviet construction people in Gorki each built a residential area using the same principles. By constant close exchange of experiences new, efficient city-planning architectural recommendations are presented and at the same time further developed designs and technologies as well as forms of organization for comprehensive housing construction are used.

In a factory in Milmersdorf which was dedicated a few days prior to the 10th SED Congress in the GDR, and in an enterprise in Grodno (USSR) finished parts of dense silicate concrete are produced. This new construction material, which was developed on the basis of Soviet research results and which can be used in housing and industrial construction, is characterized by an extraordinarily high material economy. To produce one cubic meter of concrete only 185 kg of lime are used in place of 350 kg of cement.

The construction experts, innovators and rationalizers also have an essential interest in seeing to it that the maintenance, repair and renovations measures in the housing sector become more efficient from year to year. With the introduction of efficient technologies for roof and facade repair, including renovation of the dwellings, it was possible to achieve good results, especially in the Berlin, Leipzig, Cottbus and Werdau construction repair combines and enterprises, respectively. Thus, there was success in Werdau in reducing construction costs per dwell dwelling from M15,700 to M14,000, in increasing work productivity in such a way that in a year on the average a labor force can renovate 2.1 dwellings rather than the 1.7 that had been the case, and in shortening from 900 to 720 hours the cost in work time for renovating a dwelling with simultaneous repair of the building.

Through the creation of technological lines for repair jobs on roofs and facades and through the formation of special brigades for restoring house chimneys the share of industrial construction methods increased from 5 to 30 percent in the past five-year plan period. For example, in the framework of a technology for roof repair a crane tower was used by the Berlin-Weissensee Construction Repair VEB. This made it possible to use preassembled chimney components. In contrast to traditional methods, this resulted in an increasein work productivity to 250 percent.

By 1985 in all kreises and cities several technological lines are to be used for the most varied repair jobs with the goal of a 15-percent cost reduction. Additional reserves will be developed by achieving GDR optimum values and eliminating still extant differences in level. Enterprise rationalization designs and competition programs show concrete ways to this end.



Key:
1. Housing Construction Program
2. Renovation
3. New Construction

Housing conditions have improved for every fourth citizen since 1971:

from 1971 to 1975 for 1.8 million citizens;

from 1976 to 1980 for 2.4 million citizens;

by 1985 housing conditions for 2.8 million more citizens will be improved with stable rents.

The construction of owner-occupied homes is an integral component of the comprehensive housing construction program of our republic. The following number of owner-occupied homes were built:

30,580 between 1971 and 1975;

60,430 between 1976 and 1980;

65,000 additional ones are planned for the period 1981 to 1985.

12124
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OFFICIAL ANALYZES STATUS, GOALS OF FERROUS METALLURGY

Budapest NEPSZABADSAG in Hungarian 26 Aug 81 p 10

[Article by Dr Emil Furjes, chief counsellor of the Ministry of Industry]

[Text] The change in the international business situation has had a profound effect on ferrous metallurgy because 25 percent of our products are sold to capitalist countries. Most of the basic materials and energy required to produce metallurgical goods are imported. Nowadays, prices realized on the world market are barely 80 percent of 1980 prices whereas the price of energy and material inputs has risen by 4-5 percent. These mixed trends have had an adverse effect on the world market competitiveness of our metallurgical products, especially hot-rolled goods, and we are obliged to reduce the quantity of such goods sold abroad.

This has led to much debate about the future of ferrous metallurgy: Some argue that this industry which employs 75,000 persons should be developed to reduce the technological gap in international standards; others, that the industry should remain at present levels. Still another view is that present levels should merely be maintained. Since, due to current prices, our metallurgical products receive a lower than average rating from the viewpoint of income realized and rentability as compared to the national economy as a whole, it is even argued that there is no point in maintaining current levels of production.

Sales of metallurgical products on capitalist markets in 1980 yielded $307 million. Sales volume and value will be lower this year amounting to a 6 percent drop in volume and a 25 percent decrease in dollar returns. Despite this, domestic production is advantageous to our economy: Foreign trade statistics reveal that the cost of a ton of imported rod steel is $60-80 higher than that of domestically produced rod. The difference stems from shipping, handling and customs charges.

Domestic demand for metallurgical products has moderated and is now about 1 percent higher than in 1980 while our exports to socialist countries will remain at roughly the 1980 level. A summation of the foregoing reveals that the decline in production volume amounts to about 5 percent which, although having a negative effect on enterprise profitability, presents no insurmountable problems.

Material and energy account for 75 percent of the value of metallurgical goods. In view of the fact that the technical standard of our production equipment is below the international average and that material, energy and manpower consumption are consequently higher than said average, we conclude that our international competitiveness will decline unless the current product structure is changed. Therefore, products which cannot be manufactured on--or only at a loss on--modern, highly productive equipment must be transferred to equipment of lower productivity where they will remain cost effective. Finally, we must attempt to produce and use goods of a grade which will permit reduction of specific steel use.

After evaluating the results of the first half year, the Ministry of Industry has drawn up a plan for measures to minimize losses. In response to the measures, the metallurgical enterprises have taken the required steps, and the favorable effects of this action should become apparent in this year's results.

Although lower production will reduce dollar income, there has been development in a number of important areas, in material and cost management, organization of production, in an improved product structure and in technology.

As a result of priority investments, prerequisites for qualitative change have been established at the Lenin Metallurgical Works and the Danubian Iron Works. In the near future the production ratio of converter steel will exceed 40 percent, and a similar ratio will be attained in the case of continuously crystallized [sic] semifinished products. Installation of ladle metallurgical equipment and the electric furnace will allow a rise in standards for quality steel production bringing them on par with top international standards and domestic requirements.

The previously noted trends are already apparent in the long-term plan concepts for ferrous metallurgy which have been prepared in the form of topics for debate: In working out this material, the Ministry of Industry took into account prevailing conditions, world market prognoses and development of domestic demand. We can state authoritatively that only development goals which give priority to greater modernization, reduction of live and embodied labor and improvement of quality are realistic.

In order to follow these lines, domestic metallurgy must switch from a quantitative approach to more rapid reaction to market changes and attempt to broaden the selection of goods which sell readily and production of which is cost effective. Despite limited material conditions, the means needed to achieve this can be forthcoming; the subjective conditions can be made favorable.

CSO: 2500/367

HUNGARY

PROBLEMS OF PARTS FOR AGRICULTURAL MACHINERY AIRED

Budapest FIGYELO in Hungarian 15 Jul 81 p 11

[Report by Peter Bonyhadi: "Spart Aprt Supply--Are They Left to Themselves?" This article is based on an editorial roundtable discussion with Janos Binczki (Agricultural Machinery Spare Parts Supply Enterprise), Gabor Buda (Ministry of Agriculture and Food Industry), Sandor Holics (Mezogep Trust), Jozsef Horvath (Peace Cooperative of Kislang), Kornel Kovacs (TESZOV of Szekesfehervar), Endre Orthner (Red Dawn Cooperative of Aba), Geza Soos (Argotrust), Zsombor Szekely (TESZOV of Pest Megye) and Istvan Szekeres (National Council of Producer Cooperatives).]

[Text] Almost 100,000 different kinds of spare parts are needed for the more than 1,300 types of machines used in farming. More precisely, this is the number of spare parts that should be regularly supplied and stocked. The conditional tense is no accident! The selection of most spare parts cannot either periodically, permanently or not at all satisfy the demand.

But even if spare parts happen to be available frequently they cannot be purchased, except in complete part units. For instance, a connecting sleeve, valued at 600 to 800 forints, was needed for the fan of a Raba 180 tractor. This part was not available by itself. Instead, a complete fan was offered for 16,000 forints.

The point is not whether farming equipment is generally used with sense and care but that often spare parts are needed when under no circumstances should the machine have broken down. These are manufacturing flaws! In one case 24, mostly new tractors were examined and not even one was found where the 4 cylinder valves, carburetors and fuel pumps were set to the same specifications.

The common scene is that while the farms are urged to conserve energy, most of the time the new machines "exceed" the official norms of fuel consumption. And even if the farms wanted to replace these faulty parts, which in themselves are not expensive but have a greatly influence on fuel consumption, they often cannot be found.

A Letter Instead of a Part

Not only the spare part supply but also warranty service is slow. Interestingly, not because of a lack of organization but in many cases because of a certain overorganization. One extreme example: the feed chain of a combine broke down. The cooperative notified the warranty service enterprise which referred the cooperative to the trade enterprise, saying that "we do not replace major parts." The combine was inspected by official mechanics who found that the combine's feed chain broke because of faulty use (!?) and refused to give a warranty replacement.

Now it was the cooperative's turn. It asked the Quality Control Company to examine the faulty part and it was found that the feed chain broke because of a manufacturing fault. The specialists who took part in the inspections, met again and agreed to accept the MERT verdict only if the cooperative agreed to a special material examination. This cost the cooperative a mere 9,000 forints. The examination corroborated the MERT findings.

The report was filed and the cooperative was waiting for the feed chain. They received another letter instead in which the authorities said that they would not accept the findings of this examination either because the feed chain had 5,000 links and only one had been examined. The warranty replacement or servicing of the chain would not be offered.

And probably of the tens of thousands of machines on the 1,500 large enterprises, this is not the only machine and only farm with which this happened or could happen.

Repair or "Patching Up"

In spite of all this, the farms usually accomplish the work that can be done only with machines. True, because of the lack of spare parts, they may till with a borrowed tractor or the neighboring farms lend their combines at harvest time but only after they are done with their own work. The farm which uses borrowed equipment can, therefore, do the necessary work generally only after the agro-technically and biologically optimal time. Late tilling for corn, for instance, can result in 4 to 5 quintals of crop reduction and every day lost at harvest time may reduce the crop by 1 quintal.

Except for specialized parts, no machine is idle in the cooperatives just because the supply-man could not get a screw. The repair shop can duplicate many things but these parts, no matter how qualified the people who make them are, are not perfect from the technological and safety aspect. Not to mention that if there is an accident because of the home-made parts, that person responsible is the one who ordered their manufacture and installation.

Home-made parts also decrease the efficiency of repairs. For example, only the shop manager can decide how to fix a simpler engine breakdown, or what parts must be made or put in. These repairs are more expensive than a factory-packed new replacement.

Not only the mechanics but also the operators shy away from such repairs, since their output and safety depends on whether the repair was professionally done or it was only a patch job. For example, on one of the farms, a combine's drum basket, which broke and could not be replaced, was welded. In principle, the machine was fixed but there was no guarantee how long the welded basket would hold and how many revolutions would be needed for it to fly apart.

These problems are not being solved by the cooperative experiments either which have been initiated by spare part trading enterprises and cooperatives. Although in principle it would be possible to make an agreement that a few of the constantly unavailable parts could be, as a service, manufactured by qualified farm themselves, but this would necessitate such technological and production requisites which could be met only through special material handling and material control.

But no one supplies the cooperatives with the basic materials needed for making parts. This is why those farms which have the proper equipment make parts only for themselves at their own risk and only so many as they need.

Since supplying spare parts for large farms has been a problem ever since we have had machines, there is the question that since they had to cope with this problem, why can't they continue to cope with it until we find a solution?

Putting aside the lack of goodwill when such ideas emerge, the problem of spare parts is not only a question of viewpoint. For at the present level of machine supply, the machines have a much longer useful life than 10 or 15 years ago.

What Is Impossible To Plan

It is not possible anymore to throw out a machine just because it broke down and it might be more worthwhile to buy a more modern one. If only because the new machine may first of all be more expensive but also it will not do more. Because of the reduced state subsidies--even though there are no subsidies for spare parts--the farms think twice before buying a machine. They are trying to put the machines to maximum use, and this of course results in a shorter useful life and thus a smooth parts supply would be necessary for scheduled maintenance and regular repair.

And here we return again to the starting part, to the question of actual responsibility. In Hungary, the enterprises of the Agrotrust (the Agricultural Machinery Spare Parts Supply Enterprise and the Agricultural Supply Enterprise of Pest, Nograd and Komarom Megyes), the Mezogep Trust and the RABA factory deal with spare part manufacture and trade. They would then be responsible for the shortage. This supposition is, however, only partly justified.

More than half of the 30 different kinds of power machines and 1,300 other machines used in farming are imported, mostly from CEMA-countries. The farmers' justified demand that a machine importing contract should be signed only if the importers also guarantee a smooth supply of parts, is not happening in practice. Because the delivering enterprises are interested only in making complete machines, not parts. This could be changed, for example, in a way that is done in other countries which have a developed farm machine industry, namely, they sell machines at a relatively low price but parts more expensively. That is where the profits are made.

Domestic Production

The spare parts supply is also slowed by red tape. We have partners who owe us 3 million rubles worth of spare parts from the past couple of years. They are, of course, paying the penalties but that will not make the machines go. In a somewhat larger area, this year's spare parts import quota was 54.5 million rubles.

The spare parts trading enterprise, on the basis of comestic demand, added an additional 4 million rubles and the final order came to 58.1 million rubles. Up until 3 July 1981, they were able to sign contracts only for 47.8 million rubles. The missing items, about 10 million rubles worth, are included from year to year in the shorgage lists, i.e., they are never deleted from the lists.

With regard to administration: as opposed to telex orders to other manufacturers and immediate air transports, the other--mainly CEMA--partners require the ordering of an entire year's supply in the first quarter of the previous year, 15 to 20 percent of it remaining only on paper nevertheless.

This kind of advanced ordering is difficult or impossible to coordinate with agriculture's seasonal demand for parts. For it is extremely difficult to forecast the useful life of parts, i.e., there are huge differences between the forecasts and reality. The use of machines is affected by the weather, soil conditions, crop volume and quality, etc. In a dry summer, for instance, fewer parts are needed for combines and more for irrigating systems. And there is no way to change the orders at the enterprise level.

Last year, for instance, all work had to be done in bad weather and thus everything was wearing more but mose of the specific orders for parts had to be filed before March of the previous year.

The domestic manufacture of parts, which would alleviate the problems, unfortunately is not only a matter of decision. (Lack of manufacturing equipment that needs special materials and machines, insufficient demand for economical mass production, etc.)

At any rate, it seems a promising beginning that the Mezogep Trust made an agreement with a GDR partner enterprise for the domestic production of 200 kinds of parts in a volume that will also accommodate GDR needs. But this is only 200 among the several tens of thousands of imported parts.

If not to the same extent, but there are problems even with the marketing and parts supply of Hungarian-made machines. For example, the parts for Hungarian-made tractors disappeared overnight, because the manufacturer for internal enterprise reasons, stopped for two months deliveries of parts which were based mostly on imports.

The Mezogep Trust's enterprises meet production plans by an average of 96 to 98 percent. Meeting the demand for parts is a basic requisite for bonuses in those enterprises. But there are still some enterprises which, after delivering the ordered volume of parts, are not willing to make any more even though the demand exists.

It happened at some of the trade enterprises that they were short not only of parts which were not made in large enough volume by the domestic machine industry but also of those which they had in stock but did not know about.

In view of this (or in spite of it?) we still cannot take the comfortable attitude of "it is not our fault," for unused resources exist.

The Old Is More Expensive

The first and most obvious solution would be to establish state exchanges whe . the farms would offer their surplus stocks to one another or to the trade enterprises. In an organized way, machine disassembly plants could be established primarily in the headquarters of production organizations where it would be possible to purchase either individual parts or complete engines.

The idea is not new and there are already a few of these sites but the parts "mined" here are as expensive as the new ones which, moreover, also carry a warranty. (It is, of course, another matter that the new parts may not have been available for years.)

The farms also have much to do, but in order to carry out scheduled preventive maintenance (which is one of the requisites of sensible and careful use) a general practice, a minimum of 70,000 square meters of factory maintenance and repair shops would have to be built. And knowing the farms' financial situation (since there is no state subsidy for this), the implementation would require in excess of two plan periods.

9414
CSO: 2500/336

PRICE COMMISSION HEAD STRESSES PRICE REFORM

Gdansk GLOS WYBRZEZA in Polish 17 Jul 81 pp 1-5

[Interview with Prof Zdzislaw Krasinski, government plenipotentiary for price reform, by Wojciech Rybowski on 13 July, place not given]

[Text] [Question] Last January the Poznan Economic School team under your leadership finished its work on the food price reform proposal, and in June you became a government minister. For many, many years in our country no government post has been offered to a man because he had a good idea (by the way, a painful one as well) and who was not a party member. How did it happen?

[Answer] In April I got a call from the Council of Ministers Office. I was asked if I wanted to become the chairman of the State Price Commission [PKC] to introduce the food price reform. I said, no.

[Question] Why?

[Answer] Because the PKC chairman does not have enough authority to make such reform successful. The change of prices cannot be a goal in itself. It must bring about a market equilibrium and create the conditions for normal functioning of the economy and the society. If I became the PKC chairman, I would be able to suggest a price reform, but I would not be able to have any influence on the decisions by ministries shaping, for example, earnings, that is, demand. Their decisions could bury the reform.

[Question] What happened then?

[Answer] A couple of days later I was offered the position I am occupying now. As a result of this, I have broad authorities to carry out the price reform and stop decisions which could harm it and bring even more chaos to the market and the entire economy.

[Question] Have you made any use of your authority?

[Answer] Yes. I stopped the implementation of decisions regarding the increase in student aid (scholarships) and income supplements for dependents.

[Question] You began with an unpopular move....

[Answer] These decisions were supposed to be implemented as of 1 July. They will be implemented eventually, but a little bit later. Specifically—after the change in retail prices. Otherwise, they would only contribute to a greater disorganization of the market at this time.

In general, I am aware of the fact that I have a thankless task to perform, at least initially.

[Question] What are you suggesting at this point?

[Answer] A radical hike in food prices. They should be raised on the average by 123 percent.

[Question] According to official sources, W. Gomulka raised food prices by 10-11 percent in November 1970, the Gierek-Jaroszewicz team wanted a 38 percent increase in June 1976. We all know what these changes led to.

[Answer] If we don't make any prices increases soon, by December at the latest everything will have to be rationed. And this is not a scare tactic. This scenario is a consequence of the ever-increasing inflationary curve. It is possible that one will be able to purchase only unfitting shoes, defective shirts, and products of this sort. But even that is not certain. I am already receiving signals that some enterprises are now engaged in product exchange without any money turnover. This can happen on the market as well, as it did, in fact, at the Cracow market in August 1917. There only product exchange was allowed and purchasers who wanted to pay with money were chased away and shouted at: we don't want this kind of garbage.

The other alternative is a money reform, which would mean that in a matter of days we would earn 50 to 30 percent less.

[Question] I am sure that some readers will say that you are exaggerating.

[Answer] Prices are the most sensitive instrument of the economic mechanism. They are the most perfect part of the living economic organism. Unfortunately, man in his unlimited pride enslaved this instrument, particularly in Poland. In the highly developed countries, foodstuffs, after adding all processing, cultivation, and transport costs, are on the wholesale level twice as expensive as the produce sold by the farmer. In Poland, they were 50 percent higher in 1955, but only 9 percent higher in 1979, and 10 percent lower in 1980! Budget subsidies for prices were constantly increasing, thus creating growing anomalies and absurdities. This year's price increases for farm produce have only aggravated the problem. Processed products are 20 percent cheaper than the agricultural produce. Consequently, bread and grits are used as animal feed, and milk from the retail network is used to feed cows.

I believe that the people understand the need for the price change.

[Question] Where does not belief come from?

[Answer] From long-term studies and analyses. What I am going to say may sound shocking. One month after the attempt to raise prices in June 1976 we carried out a study which shows that 70 percent of the 13,000 polled farmers agreed with the idea alone. You may ask, why was it not approved by the people? The introduction principle on which it was to be based was the reason. First of all, 97 percent of respondents noted that each price reform benefits the wealthiest ones and negatively affects the poorest. This was true. The compensatory payments projected at the time called for 250 zloties for those earning 1,500 zloties or less, and 800 zloties for those earning 8,000 zloties and more. Second, the respondents stated that no reform had so far led to better supplies in stores, or to a market equilibrium. This statement was not correct. In 1959, a relatively high price increase was introduced which was followed by a full year of good supplies of everything. Later a rigid price system destroyed this positive effect. The third answer was: We do not want to be surprised and treated like children.

I think that the suddenness of the surprise was the greatest psychological error. It gave birth to the understandable self-defensive reflex so common to all living organisms. That is why it is good that we are discussing the price changes now not only in our quiet offices but also in the press.

[Question] I still do not believe that the people will agree to a 123 percent hike. After all, in the January price reform proposal you suggested only a 66 percent increase....

[Answer] Let's tackle it point by point. The price increase draft, suggesting a 66 percent hike was presented to 1,500 families, a representative statistical sample for the entire population. About 80 percent of the respondents approved a possible reform. They were clearly divided, however, in regard to the method of its implementation; 42 percent were for a one-stroke introduction, while 48 percent favored a multiphase implementation. The rest had no opinion. Naturally, the reform provided for compensatory payments as well.

[Question] The economic situation has significantly worsened since January, but is the change so dramatic that it warrants--in your opinion--a 123 percent increase instead of a 66 percent raise?

[Answer] Unfortunately yes. I am also assuming that the price reform would be implemented in September. The longer it takes, the worse the situation becomes. The longer it takes, the bigger the increase. Only six months ago I believed that it was necessary to convince those favoring a multiphase increase of the advantage of a one-stroke implementation. At present, the scale of reform as well as the considerable number of those favoring a multiphase implementation have decided the issue: It is necessary to prepare a multiphase implementation draft.

[Question] Is it ready now?

[Answer] Well, yes, but it has to be perfected. We realized that literally only a couple of days ago as a result of suggestions made in the Sejm Committee discussion and later at the Council of Ministers meeting. Further changes may be related to the consultations I am going to have in a couple of days (the interview with Minister Krasinski took place on 13 July) with the trade unions.

[Question] What are the basic precepts of the price reform?

[Answer] An average increase of 123 percent spread over three or four phases. However, in order to achieve the projected goal, the time span between the phases cannot exceed two-four months. Naturally, the reform will provide for compensatory payments, or rather cost-of-living adjustments.

[Question] Why not compensatory payments?

[Answer] Some people tell me: You want raise prices and additionally reduce our incomes. They read "compensatory payment" as reduction of income. That is why we use the term "adjustment."

[Question] What is projected for the first phase?

[Answer] Higher prices for bread, flour products, and milk. This may increase expenditures per capita by some 200 zloties per month. I wish to emphasize here that the high- and mid-level incomes will qualify for full adjustments, and the low-income families will get as much as 300 zloties.

[Question] You want to make everybody happy?

[Answer] Most people, I am not in the position to satisfy everybody. For example, my secretary will lose on this deal despite the adjustment. She likes rolls so much that she consumes six of them for breakfast, two for lunch, and then another one before dinner. Let me note here that she is healthy.

However, during this first phase I wish to show most of all that the devil is not so black as he is painted. I just wish to prove that this adjustment--excluding a few exceptions in my secretary's category--will be really full, that the raise does not have to be a shock, and what is more important, that the equilibrium in foodstuffs will be returned to the market.

[Question] Do you really believe that?

[Answer] If I did not I would not have accepted this office. I can give you a convincing--in my opinion--example. Currently, the demand for bread is much greater than one or two years ago. Bakeries cannot produce enough. The reason (not the only one though)--low price, and consequently about 30-40 percent of bread is used for animal feed. After the price change, 1 kg of bread--don't confuse it with a loaf which is smaller--should cost 21 zloties (now 9.6 zloties). No doubt the demand and waste will decrease.

In the second phase, the raises will cover vegetable oil, dairy products and sugar, and in the third phase--meat, fish animal fats and groceries. Those with lowest incomes would also receive full adjustment in cash, those better off--a little smaller adjustment, depending on income increases with increased share of adjustment paid by state bonds. The bonds would earn interest and additionally would be drawn in state-sponsored lotteries (the drawing system and the prizes have not been determined yet).

[Question] You mentioned three stages, where is the fourth one?

[Answer] A separate phase would cover price increases for coal, coke, electricity and heat. The miners say that we consider coal Polish gold, but for 1 ton of this gold (present price about 500 zloties) one can buy--as they say--two good cocks on the market. The present price hampers the production growth of this product which is indispensable to our economy. It must increase. This would occur in the second or third phase of the reform, and the changes listed by me earlier would be shifted respectively.

[Question] This is not the only variant of the price reform, I presume.

[Answer] Earlier I had a chance to discuss at various forums a nonrecurring hike variant, which was not accepted, when I presented a two-phase variant, which after debates at the Sejm Commission and at the Council of Ministers meeting was corrected. This was two-three days ago. I think that raises in three or four phases are a good solution, and the variants should focus on adjustments (e.g., to include state bonds or not). And earlier today I presented yet another idea. The food price increase scale can be lowered a little, while part of the inflationary overhead can be recovered by means of an additional so-called stabilization supplement, added to the prices of industrial products.

[Question] Please explain what that means.

[Answer] Since I am afraid that soon the money supplies available will be used en masse against the industrial products on the market, it might be necessary to announce temporarily, e.g., for one or one and a half years that a razor blade costs 7 zloties, but from 1 September 1981 until 1 September 1982 it will cost 7 zloties + 10 zloties (it should be marked this way), that is 17 zloties. Similar action should be taken for other goods which are threatened by a sellout now or in the immediate future. A customer would have two options: either to buy a lot, store it and prepare for the future, thus spending much more money, or to buy only as much as he needs at the time, thus spend less in the belief--and I wish to emphasize this--that within a year the price will return to its former level. This way the food price increase could be smaller, and at the same time the supplement, which in reality many pay in the form of bribes, would not fall into private hands. How do you like that?

[Question] It depends on, first of all, what would happen to those supplements--who would control them, what purpose they would be used for. Secondly, I would say that in theory this could be a good instrument to balance the market, but I do not know if this idea has been tested in practice, if any country has implemented this idea.

[Answer] You have touched on a very important question. The condition for success in introduction of the supplement is confidence by the people, their belief that the money will not disappear somewhere, that will not be used for some unclear purpose. I am suggesting that the supplement be used for the creation of a special stabilization fund which would be controlled not by the party, government, or similar body, but by a civic panel, elected through a special ballot. This public body could decide what to spend the money on--education, medicines, schools, or other purpose. For example, a part of this fund could be used to cover the budget deficits (such as, interest on foreign loans, among others). This body would decide everything.

As to the other question, just recently, struggling with her own economic problems (naturally, less serious than ours), Yugoslavia introduced the stabilization supplement. The result is that the demand for products which had quickly disappeared from shelves has clearly dropped. The people are satisfied with the market balance.

[Question] Price constitutes--as you stated--the most important element of the economic mechanism. It is difficult, then, to overestimate its role in the comprehensive economic reform being prepared now. In your opinion, should the change in retail prices precede the reform or be a part of it?

[Answer] Equally important, or perhaps even more significant for the economic reform is a change in supply prices. They are too low as well. They have to be raised.

[Question] But it is of great importance to assure so-called price compatibility, that is, a fairly close relationship between supply and retail prices. Moreover, the level of retail prices alone is an important question for the reform. After all, their level determines, among others, customers' decisions, and effective demand constitutes indispensable economic information for the consumer.

[Answer] This is how I understand the role of prices in the economic reform. It is this important role that predicates the necessity to both raise supply prices and bring their structure closer to the structure of prices on the world market as well as the need to raise retail prices. However, the latter particularly now must to a greater degree play the balancing rather than the cost or revenue function on the market. The change in retail prices will constitute both the introduction to the comprehensive economic reform and later its element.

[Question] "Solidarity" strongly and rightfully so emphasizes the relationship between price changes and economic reform.

[Answer] The acceptance by this union of price increases is predicated on its belief that the planned and soon-to-be-implemented reform will be deep and comprehensive. And "Solidarity" is right of course. After all, properly functioning prices are an indispensable element of accounting carried out by competing enterprises. And the reform ought to break monopolies and allow the functioning of the market mechanism. For the price increases cannot be perceived as justified if the mechanisms necessary for proper functioning of the market are not activated. This is a very logical way of thinking. This is why I promised that if I notice before the second phase that there is resistance against introducing the economic reform, that there are setbacks, I would resign from my position.

On the other hand, in such a reformed system prices cannot be rigid, they must change.

[Question] Could they be lowered as well?

[Answer] Naturally. And this could happen quite fast. It may happen that due to price increases stores are filled with certain goods. Why not lower their prices? Moreover, prices in Gdansk and Zakopane may differ. Why not sell milk cheaper in season instead of wasting it? Reducing prices is possible, and I am saying this not off the top of my head but from experience. I am not in favor of only higher prices. They are indispensable now to balance the market. In general I am in favor of flexibility.

[Question] To many these are just fantasies. But since you are spinning them now, what about ration coupons?

[Answer] The consequence of the above scenario is the end of ration coupons. I wish they would die a natural death. As I see it, in the store on one shelf there will be goods for cash and on another one, for coupons. If the consumers in order to save time and nerves start buying more and more from the first shelf and less and less from the second one, we will be able to eliminate coupons.

[Question] Now let us return from the trip to the future back to the present. From your earlier statements one can conclude that you see the chance of regaining balance only in taking money away from people and not in adding goods.

[Answer] Not true. I am for stimulating production of market commodities. The only problem is that right now there is no motivation for greater effort, more efficient work and initiative because little can be purchased with the money and coupons filling our pockets. Money loses its value almost from one minute to another. It is impossible to stimulate production in this situation. Therefore, we have to start with my proposal and the projected price reform closely relate to the economic reform, which is also strongly emphasized by me.

[Question] What will happen, however, if, despite the studies indicating that the people agree with the price reform, in reality the society will suffer a shock and will not accept it?

[Answer] We will plunge into unbelieveable economic chaos. By the end of the year--as I mentioned before--everything will be rationed, or we will experience a universal commodity exchange.

[Question] Let me end with a question which was directed by a ZYCIE WARSZAWY reporter to Prof Jozef Popkiewicz from the Wroclaw Economic School? "What would you say if you had five minutes on television and during this time you would have to convince the public that the price reform is necessary?"

[Answer] I would answer the way Prof Popkiewicz did. That is I would not say anything popular.... On the contrary, I would only say unpopular things. That after the price reform in the first month everybody will have enough money only until the 15th, the next month--until the 20th, then--perhaps until the end of the month, but with difficulty. Then I would say that everybody will have to get used to austerity and think hard about how to make more money. And that the enterprise will give them a chance to earn more, but only if they work more efficiently. Such post-operative shock will have to last for about a year. Then you can settle up accounts with me. Either you trust me or not. If not, plunge further down.

[Question] And you think that people would buy that?

[Answer] I think that easier than a promise of golden mountains....

[Interviewer] Thank you for the interview.

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POLAND

HOUSING CONSTRUCTION PROSPECTS FOR 1981-1990 ANALYZED

Warsaw PRZEGLAD BUDAWLANY in Polish No 5, May 81 pp 266-270

[Article by Dr Eng Boleslaw Jozwik, Warsaw: "Possibilities for Development of General Construction During 1981-1990--Article for Discussion"]

[Text] Housing construction, next to the food situation, lies in the focus of public attention and at present is one of the nation's two most important problems. All who are interested in this problem ask whether it is possible to accelerate significantly the development of housing construction, and how it can be done.

The state of construction cannot be considered separately from the state of the entire economy and any marked growth of construction cannot occur without improvements in the nation's economic situation. That situation, in its turn, hinges on political and social factors. The restoration of the public's trust in the authorities is needed, as is the democratization of political and social life. Without that democratization the economy cannot improve, as is clear considering that the nation's economy can save itself from its current profound crisis only through the tremendous and spontaneous effort of the entire nation. That effort should not only be organized but also purposive, effective, and not wasteful. First of all, the public should be imbued with the conviction--so foundering in recent years--that we all work for the common good, for our own sake.

The further growth of the nation's economy is a function of the public's moral-ethical state. Improvements in that state depend, in their own, on the democratization of political and public life and the restoration of complete rule of law. Only full respect for the rights of the individual and effective public control of the activities of the machinery of state and self-government organs, as well as control of the activities of enterprises and social organizations, will make possible the moral renewal of the nation and the reconstruction of the economy, including construction. The moral renewal of the nation means the surmounting and reduction in extent of such public trends as bribery, drunkenness, prevarication, chiseling, dishonesty, the desire to live well at the expense of others and the lack of respect for human dignity. The Polish economy will not survive its crisis until these negative trends are eliminated from the life of the nation.

The state of any field of the economy is affected both by subjective factors (moral state of society and its will to improve its condition through enhanced effort) and objective ones of which the most important, properly speaking, is the selected direction of development. That direction should be adapted to the state of the economy, the availability of energy and supplies of appropriate materials and products and the possibilities of transport, and it should consider the manpower resources and the effect of subjective factors. Here it is essential that the material effects of the operation of every branch of the economy should be fully and unqualifiedly accepted by society, because this acts as a factor channeling the nation's energies for the implementation of the selected objectives.

Production Base of General Construction[1]

In 1980 there were 147 prefabricated large-panel products plants active within the Ministry of Construction [and Construction Materials Industry]. Their rated productive capacity is 9,545,000 sq m u s [square meters of usable surface] and their actual capacity is about 8.2 million sq m u s annually.

In addition, within the ministry, 12 large-panel prefabricated products plants with a rated annual production capacity of 2,771,000 sq m u s and an actual annual capacity of about 1.98 million sq m u s are either under construction or in the activation stage. Another ministry, the Ministry of Mining [and Power Industry] operates eight large-panel prefabricated products plants with an aggregate production capacity of 619,000 sq m u s.

Further, the Ministry of Agriculture [and Food Economy] operates 11 active plants with an annual production capacity of 501,000 sq m u s, plus 3 more plants under construction or in the activation stage, with an aggregate capacity of about 96,000 sq m u s. The latter are designed chiefly for single-family housing construction.

The CZSMB [Central Union of Housing Construction Cooperatives] operates 13 large-panel prefabricated products plants for single-family housing construction with an aggregate annual production capacity of 322,000 sq m u s.

Altogether, there are in this country 194 large-panel housing construction plants (active or in the activation stage) with an annual production capacity of about 11.72 million sq m u s (about 193,000 dwelling units annually). Of this total the Ministry of Construction accounts for 159 plants with a combined production capacity of 10.18 million sq m u s annually (about 179,000 dwelling units), of which 27 plants with a production capacity of about 910,000 sq m u s (about 14,000 dwelling units) are designed to produce prefabricated products for single-family housing construction. It should be stressed here that there are no particular differences between the large panel designs used in multifamily and in single-family housing construction. Thus, individual plants may produce prefabricated products for both multifamily and single-family buildings.

The Ministry of Construction also controls 86 large-block prefabricated products plants with an annual production capacity of 3.45 million sq m u s (about 56,000 dwelling units).

The CZSMB operates five large-block plants with an annual production capacity of 48,000 sq m u s.

The Ministry of Agriculture operates 15 large-block plants with an aggregate production capacity of 660,000 sq m u s.

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[1] Unpublished source data

Altogether in this country there exist 106 large-block prefabricated products plants with an aggregate annual production capacity of 4,158,000 sq m u s (about 68,000 dwelling units).

In addition, there are eight shell-structure prefabricated products plants ([producing] SBO [expansion unknown], and T- and H-frames) with an aggregate annual production capacity of about 450,000 sq m u s. According to the 1980 Plan, the output of ZLS [expansion unknown]-system frames was to reach 480,000 sq m u s and that of poured-on-the-spot reinforced concrete, for multifamily and attendant housing construction, (SBM-75, ROW), approximately 300,000 sq m u s.

SBO-, T-, ZLS-system frames are used only for communal construction, while H-frames and the SBM-75 poured-on-the-spot system are used for both housing and communal construction. Communal construction projects also are built by the multiblock system (schools, preschools, nurseries, boarding homes, etc.), as well as on using certain multipanel systems, chiefly Wk-70.

Altogether the Ministry of Construction controls a production base serving to implement about 14.55 million sq m u s annually in general construction.

Overall, the nation's production base assures building about 17.11 million sq m u s annually (nominally, about 19.24 million sq m u s), of which about 13.58 million is for housing construction (approximately 280,000 dwelling units) and about 3.53 million for communal construction. The construction is chiefly based on the use of concrete (except the ZLS system).

As regards single-family construction the pertinent facilities are assigned to serve socialized construction alone.

The Nation's Needs for General Construction

Urban housing situation. It is difficult to assess the urban housing situation on the basis of official statistics. The accuracy of the previously published official data is doubtful, and there are no other, more reliable sources. On the basis of statistical data[2], the following figures may be assumed:

--Number of urban dwelling units	5.765 million
--Number of dwelling units built in the postwar period	about 3.36 million
--Number of dwelling units unfit for use	about 650,000
--Number of families in Poland having or desirous of having their own households	10.91 million
--Of which: urban families	about 6.98 million
--Number of youth 15-19 years old	3.087 million
--Number of males and females 20-29 years old	6.564 million

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[2] ROZNIK STATYSTYCZNY GUS 1979 [Statistical Yearbook for 1979, Main Office of Statistics] plus unpublished sources.

--Number of marriages in 1978	327,000
--Number of deaths in 1978	325,000
--Number of deaths in 1978 at age above 60	230,000
--Number per year within the 15-19 years age group	615,000
--Number per year within the 20-29 years age group	656,000

Since teenagers are a numerically smaller group than persons in the next higher age group, it can be assumed that the average annual number of marriages during the 1981-1985 period will be about 305,000, about 200,000 being in urban areas.

Each year some dwelling units are made available owing to the demise of one or both spouses occupying an autonomous dwelling unit. It may be assumed that in this way the housing needs of some 50,000 families are satisfied, even if the released dwelling units are occupied by the family members of the deceased persons.

The actual housing demand in cities is approximately 6,890,000-5,765,000+ 650,000+ 200,000-50,000 = 1,925,000 dwelling units.

In addition, the average annual increase in housing demand is about 150,000 applicants. To shorten to 5 years the mean waiting time for housing after 1985, it would be necessary to build about 430,000 new dwelling units in cities each year.

Restoration of old urban housing stock. It should be borne in mind that, in addition to building new housing, the satisfaction of current and future urban housing demand will require the restoration of old housing stock. In the cities, there exist some 2.4 million dwelling units built prior to 1939, of which more than one-half require replacement of structural elements and renovation. If this is not done within the next 10-20 years, that housing will become completely unsuitable. More than one-fourth of the older dwelling units and about 60,000 of the dwelling units built in the postwar period are by now no longer usable.

It should be stressed that the restoration of old housing stock also entails protection of the nation's cultural relics. Renovation also requires special attention, considering that the inadequate protection of the natural environment and the threat presented by industry and by car exhausts accelerate the disintegration of older buildings.

The problem of the capital repair of buildings erected after 1945 also becomes increasingly greater. It is estimated that the number of dwelling units in buildings urgently needing capital repair is approximately 390,000.

Rural housing situation. According to statistics, there are 3.59 million rural dwelling units, of which 1.79 million were built after the war. The number of unusable dwelling units is about 780,000.

There are 4.02 million rural families with households of their own. About 105,000 new marriages annually are registered in the countryside.

When determining the urban housing demand, it should also be considered that the proportion of older people in the countryside is higher than in the cities. A three-generation household is a common phenomenon in the countryside. Thus, rural housing demand may be estimated as follows: 780,000+(4,020,000-3,590,000) 0.500+105,000-120,000 = 980,000 dwelling units.

Rural housing consists at least 90 percent of detached single-family houses.

The determination of the rural housing demand is necessary because, in order to halt the migration of the rural population to the cities, rural housing construction must be given priority before urban housing construction. Building materials should be allocated in accordance with that priority. Such allocations should also include assignments of materials for productive farming structures.

The demand for communal construction. This demand is extremely difficult to estimate closely. It has been growing for many years owing to the lower priority it received compared with housing construction itself, and because in some fields it was satisfied less than in others.

The actual demand for communal construction can be estimated at 25 percent of the needed useful surface area of urban dwelling units and 15 percent of rural dwelling units.

The demand for urban communal construction is:

1,895,000.56.0.25 = 25,100,000 sq m u s.

and the demand for rural communal construction:

980,000.75.0.15 - 11,000,000 sq m u s.

The overall national demand for communal construction amounts to 36.1 million sq m u s.

The demand for communal construction chiefly concerns the construction of public health and social welfare facilities, as well as of educational, cultural, trade, and service facilities.

The 1980 Construction Plan and Its Fulfillment

The poor state of construction in Poland is illustrated by the fulfillment of the 1980 Construction Plan. That plan envisaged the construction of 13.15 million sq m u s of multifamily housing (267,200 dwelling units), 9.1 million of single-family housing (92,800 dwelling units), and 5.65 million of communal buildings. The overall plan was for 27.9 million sq m u s about 20.32 million of it in socialized construction.

Following its revision, the plan envisaged the construction of 9.67 million sq m u s of multifamily housing (8,561,000 of it to be handled by the Ministry of Construction), and 3.7 million of communal construction.

The actual fulfillment in 1980 was about 5.98 million sq m u s (about 120,000 dwelling units) of multifamily housing, of which the Ministry of Construction accounted for about 5.22 million (about 105,000 dwelling units); about 950,000 (about 11,000 dwelling units) in socialized single-family construction; and about 2.1 million in communal construction. Altogether, about 9.03 million sq m u s was built in general construction, which equals about 43 percent of the 1980 plan prior to its revision and about 60 percent of the plan as regards multifamily and communal construction prior to its revision. This is less than in the previous years, even after allowance is made for the declines in the statistics for the preceding years. Thus, such a volume of construction greatly lags behind the needs of society.

Causes of the Crisis in General Construction

General remarks. The decline of general construction is due to many factors, of which the most important are as follows:

1. The targets set by the plan exceeded the production potential of the enterprises and plants. So far, output targets have not been matched to the supply and transport potential, production capacities and power supply.

2. There have been frequent stoppages and slowdowns of production owing to lack of materials, stoppages in electric power supply, shortcomings of transportation, and poor organization of work.

3. Labor productivity and the quality of work have declined.

4. An improper direction of the development of general construction was adopted. In multifamily housing construction emphasis was placed on the material- and energy-intensive large-panel construction technology. A complement to that technology is large-blcok technology, whose proportion is steadily decreasing. In communal construction, the solutions applied have not been coordinated with the material possibilities. In single-family housing construction for nonrural population there is a lack of a rational developmental concept, and there is also a shortage of the necessary quantities of building materials.

5. An imporper investment policy was adopted, resulting in excessive investment in the prefabricated concrete components industry ("housing factories") along with the neglect of the building-materials industry, chiefly as regards ceramics, installation materials and products, and insulating materials and chemicals. This engendered material barriers to the growth of construction.

6. The introduction of the monopoly of plastic concrete as a building material (and not only as that) resulted in an excessive demand for aggregates and cement, which in its turn led to shortages of these materials and a marked decline in their quality.

Material intensiveness of multifamily housing construction.[3] The consumption of the principle building materials for the erection of multifamily housing is as follows (outside the areas of mining damage), given the currently applied construction techniques:

--cement, 270-350 kg, mean 350 kg/sq m u s;

--aggregates, 1,400-1,770 kg, mean 1,690 kg/sq m u s;

--reinforcement steel, 24.3-43.6 kg, mean 28.7 kg/sq m u s.

In mining-damage areas the consumption of these materials to erect housing structures alone is as follows:

--reinforcement steel, 24.3-43.6 kg, mean 28.7 kg/sq.m.u.s. [as published]

--aggregates, 2,030-2,460 kg, mean 2,280 kg/sq m u s;

--reinforcement steel 35.5-45.3 kg, mean 42.1 kg/sq m u s.

At present 25-27 percent of the nation's general construction is done in these areas.

In multifamily housing construction (inclusive of the infrastructure of settlements--small-scale architecture, roads, canals, etc.) the consumption of building materials is as follows:

--cement, 390-460 kg; meant 430 kg/sq m u s;

--aggregates, 2,200-2,540 kg, mean 2,400 kg/sq m u s;

--reinforcement steel 29-48 kg, mean 35 kg/sq m u s.

The consumption of cement and reinforcement steel is increasing. The increase in cement consumption is due to the steadily worsening quality of the aggregates (granularization) and cement, the failure to adapt the produced varieties of cement to the concrete mixes and mortars per index unit, the higher proportion of concrete mixes having a liquid or semiliquid consistency (battery forms), and improper storage techniques (mixing of cements from different cement plants in silos).

The higher consumption of reinforcement steel is due to the frequent changes in reinforcement diameters owing to the shortage of rods with the right cross section, the increased mass of rods owing to the sizing of rolling-mill facilities, the increased amount of defects and waste owing to uncoordinated deliveries of rods of the needed length, and the need to reinforce additional structural elements.

Similarly, the consumption of aggregates is greater than it should be, owing to shortcomings in their onsite disposal and the differences between nominally and actually consumed quantities of aggregate.

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[3] Data based on author's own research.

Possibilities for Improvement in General Construction

Multifamily urban housing construction. For the next 15 or so years we must continue to carry out multifamily urban housing construction on the basis of large-panel technology. The "baggage" of that technology, in the form of 167 housing construction factories and 91 large-block plants, predetermines the directions of housing constrution for the near future. This potential must be exploited in order to assure at least a partial amortization of the funds expended on building many of these plants. Besides, there do not exist any alternative solutions suitable for immediate application. In view, however, of the uncertain solutions, limited durability of buildings, and material- and energy-intensiveness of large-panel technology, that technology should not be further developed, and instead only the existing facilities should be exploited. On the other hand, the continuing decline in large-block construction should not be further developed, and instead only the existing facilities should be exploited. On the other hand, the continuing decline in large-block construction should be halted.[4] Large-block technology is superior in many ways to large-panel technology. It provides a most flexible and open solution serving to design buildings of the most varied shape. Moreover, among the large-sized prefabrication techniques, it provides the most durable and certain solution and, after the application of a thicker layer of cellular-concrete insulation, buildings erected from large-block components will have a low energy-intensiveness when in operation. The assembling of large-block components is relatively easy and safe.

The large-block system at present is based on a high consumption of cement--mean of 343 kg/sq m u s, and aggregates, averaging 1,780 kg/sq m u s. Most of the cement and aggregates is consumed on the construction site, owing to the use of thick leveling layers in ceilings and fairly thick interior and exterior wall layers. More careful production and more precise assembling of the prefabricated components could result in reducing the thickness of these layers. The use of plastic gypsum and plastic wall plaster (PMT) should also contribute to a marked reduction in the consumption of cement and aggregates. Large-block technology requires less reinforcement steel than the other technologies.

The new developmental directions of multifamily housing construction should be based on free competition of construction technologies. The selection of any particular technology should be decided by means of a thorough technical-economic analysis, which will assure natural elimination of inefficient construction techniques.

It appears that the crisis being experienced by multifamily housing construction will grow further during the next 2-3 years. Unless effective countermeasures are taken in time, this will lead construction to a profound impasse. We must prevent a situation in which deficient construction in the future will require spending greater production resources to correct mistakes than are at present being spent on the erection of buildings of poor quality. The greatest number of shortcomings and mistakes characterizes large-panel technology.

Given the present profile of multifamily housing construction, it is not possible to increase the number of dwelling units under construction owing to the existing material problems, especially the cement problem.

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[4] Cf. The pertinent article in PRZEGLAD BUDOWLANY No 4, 1981 (Editor's Note).

General urban construction at present uses (for buildings and infrastructure of communities) about 5.1 million tons of cement,[1] i.e. about 20 percent of the total output of that material. When communal construction and urban utility installations are included, this consumption reaches about 7.1 million tons or about 36 percent of the entire cement output. Had general construction been following the original unrevised plan, it would correspondingly, given the current rate of consumption, require about 9.3 million tons of cement or, including communal construction and urban utility installations, 11.8 million. This is 20 percent more cement than is currently used by construction as a whole (except rural construction) in the construction and installation operations of all socialized construction enterprises.

The construction of more housing requires the prior expansion of the building-materials industry--of all of its fields in proportion to needs and with allowance for the planned directions of action. This concerns chiefly the reconstruction of the ceramics industry and the adaptation of its production profile to needs. The industries producing insulating materials and installation materials and products also urgently require expansion.

The production of cellular concrete should be developed on a larger scale, particularly as regards 30 and 18 cm thick blocks.

It is necessary to bear in mind the principle that the production of building materials should precede the needs of construction.

Single-family housing for the nonagricultural population. In the present situation of construction, an increase in new housing can be chiefly achieved by developing single-family housing in the form of segment-type row buildings, on using the most simple and cheapest techniques. If single-family housing is to provide a developmental housing base for urban working people, it must be low-cost, material-saving and equipped with facilities of a standard corresponding to that of multifamily housing. Detached or semidetached single-family houses are too material- and energy-intensive to operate (excessively large exterior wall surfaces compared to useful surface area). Besides, this kind of single-family housing involves limited terrain use--it occupies large areas, which are becoming scarce in cities.

Single-family, two-floor row housing can achieve a population density no smaller than that of multifamily housing. Besides, the cost per sq m u s of such dwelling units, when built by improved traditional techniques, is much lower than that of dwelling units in buildings erected from large panels. Row houses can be readily equipped with the necessary facilities. Since linking single-family housing projects to the urban sewer system is often very costly owing to the peripheral siting of these projects, it is necessary to draft projects for small local sewage treatment plants (series of Imhoff collectors). The traditional cesspool-type sewer system should be restricted, because cesspools are mostly not watertight (or "loosened" by users) and contaminate the soil, thus menacing the health of the local residents. In addition to sewage-treatment plants, single-family row-housing communities should be provided with community heating plants and water mains systems.

Single-family housing construction for the urban population should be based on various forms of investment, but preference should be given to private home construction handled by the cooperatives. In addition to this form, it is possible to develop the construction of apartment buildings by cooperatives and plants, as financed by banks or labor establishments.

Given the nation's present economic situation it is tremendously important that single-family housing construction can and should to a greater degree use up the cash resources of the population and liberate its initiative. In single-family, two-floor row-housing construction of dwelling units averaging 65 to 95 sq m in area there exists a greater possibility for the integration of three-generation families, which is a highly desirable development on moral, social and also economic grounds.

Single-family housing communities in cities should be built by contractors operating adequate production facilities. These contractors should be provided with sufficient material supplies to assure an efficient and rapid course of construction. The builders may be state enterpirses, cooperatives, construction teams at labor establishments or the residents themselves, as supported with equipment and experts by specialized state or private companies. The future residents should, if they do not take part in the construction itself, be assured of taking part in supervising and controlling the construction.

To eliminate many improprieties accompanying the expropriation of sites for single-famlily and multifamily housing construction, it is necessary to introduce the principle of compensation for land based on real, free-market prices. This principle should apply to any expropriation of land.

Rural housing construction. The most important problem of that construction, in addition to the shortage of building materials, is the installation of utility lines in rural areas. Given the conveniences of the communal principle of providing utilities (electric power, water mains, even sewer systems with local sewage-treatment plants, facilities and equipment of rural cooperatives, stores, reading rooms, depots, roads, transportation), the concept of creating farm clusters is undoubtedly justified. However, the plans for territorial development which serve as the basis for determing the sites of rural communities often are drafted without a prior study of local conditions and consultation of the concerned residents, by fiat of community heads. These plans are introduced by administrative procedures, which always leads to distortions and abuses.

The development of clustered rural communities should be based on the principle of free choice, without any compulsion. The attendant exchange of certain lands should be based on accurate taxation and free-market prices of land.

It is the state's duty toward rural construction to provide a sufficient quantity and variety of building materials and equipment and technical assistance. The technical consultation needed in the countryside should be subsidized by the state but organizationally attached to rural self-government units or to the occupational or social organizations of farmers. The rest should be left to the farmers themselves.

Communal construction. So far the principal shortcoming in that respect has been the rigid and limited extent of that construction in newly built housing communities and the architectural monotony of structures.

The program for communal construction is being fulfilled much more slowly than that for housing construction. Construction is limited to standard shopping pavillions in the ZLS or T system, schools, preschools, nurseries, and occasionally trade-and-service pavillions in the large-block system, Ruch [newsstand] kiosks, vegetable kiosks--and that is all. And yet this is the only chance for communal construction to imprint the anonymous and faceless housing communities with the stamp of individuality and character. Communal buildings should be a fabric linking new communities with the existing city into a single organism. Close application of standard system designs in communal construction undoubtedly facilitates the construction of housing communities but it does not improve their esthetics. It should always be borne in mind that /human needs are varied and are not limited solely to sleeping, eating, and caring for children in the absence of parents/ [in boldface].

Summing Up

1. General construction, especially housing construction, is in a deeply critical situation which will continue to worsen for the next 2-3 years. Unless effective countermeasures are taken, construction will reach a total impasse.

2. The crisis of general construction is due to the poor state of the entire economy. It has been affected by the worsening moral-ethical atmosphere of the public, numerous abuses, poor organization and improper selection of developmental directions of construction, and mistaken investment decisions in this field. At present, the development of general construction is hampered most by material shortages. There is a shortage of all building materials. In multifamily housing construction the increase in output is hampered must by shortages of cement, reinforcement steel, and heat-insulating materials.

3. Housing construction based on large-sized prefabricated components, including large panels, should be continued for the next few years, because there is no other choice and the so-called offsite housing construction factories, built at great expense, have to be at least partially utilized. This type of construction, however, displays various major shortcomings and defects which must be urgently eliminated so as to avoid a still deeper crisis and total impasse in the future.

4. Housing construction based on large-sized prefabricated components, especially large panels, should not be further developed in view of its highly material- and energy-intensive nature, high cost, and, especially, the material problems, especially the cement problem.

5. To build more housing, priority should be given to expanding and modernizing the building-materials industry, including the great neglected construction-ceramics industry and other industries producing materials needed by construction.

6. The increase in urban housing stock is primarily achievable through single-family housing construction, which should be developed in the form of low-cost, two-floor row (segment) houses. Here priority should be given to private housing built by cooperatives, although cooperative apartment buildings and housing for plant workers should also be developed.

7. The construction of single-family housing for workers may be handled by state enterprises, cooperatives, labor establishments and associations of private residents with the aid of cooperatives or labor establishments. What is important is that communities of single-family houses for workers be built efficiently and rapidly.

8. The state should give preference to this type of housing construction by providing it with every kind of assistance such as the supply of the needed building materials and equipment and financial and technical assistance.

9. Priority in deliveries of building materials should be given to rural construction, which also should be provided with technical and financial assistance on a scale greater than previously.

10. The problem of providing urban and rural single-family housing communities with sewer systems and community sewage treatment plants should be solved.

11. It is high time to initiate the renovation of old housing stock on an appropriate scale. Capital repair of multifamily apartment buildings should also not be forgotten.

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INCREASED INVESTMENTS FOR CHEMICAL INDUSTRY DEVELOPMENT DISCUSSED

Warsaw INWESTYCJE I BUDOWNICTWO in Polish Feb 81 pp 18-21

[Article by Mieczyslaw Lesz: "Investments and the Further Development of the Chemical Industry"]

[Text] The chemical industry is a source of progress for the entire national economy. The effect of the chemical industry on all the other branches of industry and activities of the national economy continues to grow. The chemical development of the national economy is one of the trends of technical and economic progress.

The significance of the chemical industry is based on the possibility of replacing natural materials such as natural fibers, metals, rubber and wood with chemical products. These products are often cheaper, easier to work and process and at times possess better user properties.

The chemical industry permits various economic activities to be intensified. One has only to mention the role in agriculture of chemical fertilizers, plant insecticides and chemical additives to fodder, the role of oxygen as a factor intensifying metallurgical processes, of acetylene in metal cutting and so forth.

That is why the chemical industry developed worldwide faster than other branches of industry. If the 1970 level is accepted as 100, then for the CEMA countries of Europe the index of industrial production for 1978 was 172 and for the chemical industry it was 203, for Western Europe it was 121 and 138 respectively, and for the United States it was 121 and 168. The share of the chemical industry in highly developed countries approaches and even exceeds 20 percent of the total value of industrial production (France, the FRG).

In Poland during the 1960-1976 period, the share of the chemical industry in industrial production increased from 5.5 percent in 1960 to 11.2 percent in 1976. Since that time, however, this share decreased to 10.8 percent in 1979.

The chemical industry was also treated unfairly in the allocation of investment funds and the processing capacity of the construction industry. As a result, the growth rate of outlays for the 1970-1978 period was 17.5 percent lower than the outlays for Polish industry as a whole. During this period, the chemical industry's production equipment increased at a slower rate than for the remaining industries, especially after 1975.

If the value of fixed assets in 1970 is set at 100, then their value in 1975 in fixed prices for industry as a whole was 158.9, and for the chemical industry (excluding fuels) it was 154.2. Although the difference in growth rate still was not too large (4.7 points), it increased greatly in the following years. In 1978, this index of the growth of value of fixed assets was 215.9 for industry as a whole and 192.9 for the chemical industry. Thus the difference in the growth rate of fixed assets is already 23 points.

As a result, among the European CEMA countries Poland was in last place in the amount of chemical production per resident. If the value of chemical production per resident in Poland is set at 1, then in Romania it was 2.03, in the GDR--1.94, in Bulgaria--1.68, and in the USSR and Czechoslovakia--over 1.63.

The underdevelopment of Poland's chemical industry is attested to by its position in the world regarding the production of the most important semifinished chemical products. With regard to industrial production, our country occupies 10th or 11th place in the world, but in the production of plastics, ethelyne and propylene it occupies 19th place, and for synthetic rubber, 15th place.

This is not an advantageous structure for the chemical industry. The structure of the world's chemical industry changed quite fundamentally over the last 10 years. The share of such organic products as plastics, synthetic fibers, rubber and products of small-scale chemical industry increased. In Poland's chemical industry these trends occurred in an unsatisfactory manner, and here and there regressions occurred, especially after 1975.

For example, during the 1970-1975 period, the share of plastics in total chemical industry value increased from 9.8 percent to 13.8 percent, but in the following years it fell to 13.3 percent. The share of dyes, a Polish export specialty, fell from 1.9 percent in 1970 to 1.5 percent in 1979, the share of paints and laquers decreased and so forth.

As a result, during the last few years the chemical industry has increasingly been unable to discharge its obligations to the national economy, the effect of which was to slow down the ongoing chemical-development processes and to weaken the foreign-trade balance regarding chemicals.

The Status of Investments in the Chemical Industry

The main reason the chemical industry is lagging is the extensive nonfulfillment of the 1976-1980 investment plan. Resources allocated in the plan for the needs of the chemical industry were shifted during the course of the plan's execution to other projects (the Katowice mill, the Polonez automobile, color TV and so forth).

During the five-year plan, the government passed six resolutions increasing the chemical industry's tasks and resources. They concerned increasing the export of pharmaceutical products, expanding co-production, expanding the tractor industry and the production of large-load-capacity vehicles (tires), and building a fertilizer factory in Police.

These resolutions established additional nonplan investment outlays amounting to 39 billion zlotys. Since the basic investment plan for the chemical industry approved by the government amounted to 208.6 billion zlotys, the additional tasks represented 18.7 percent of the basic plan. All together, the sums of the basic plan and the additional tasks balanced out to 247.6 billion zlotys, including 101.7 billion zlotys for construction-assembly work.

However, in the annual plans these sums were reduced significantly. During the 1976-1977 period the annual outlays were in general in agreement with the allotments in the five-year plan, but as the years went by the annual allotment was decreased, and the difference relative to the five-year plan became increasingly greater. In 1978, it amounted to 11.2 billion zlotys, which represented 25 percent of the plan for that year; in 1979, it was 26.8 billion zlotys, which meant that the annual plan was reduced relative to the five-year plan allotment by two-fifths. The total sum for the annual plans was 189 billion zlotys, and the construction-assembly work plan specified 74.7 billion zlotys. But the actual sum realized at the end of 1980 was at most 187 billion zlotys and only 63 billion zlotys was realized for construction-assembly work, but at the same time costs increased greatly.

Thus the actual sums expended will be 76 percent of the overall goals, and only 62 percent of the construction-assembly work plans which determines the possibility of assembling machines. The value of construction-assembly work, which in 1975 reached 16 billion zlotys, has gradually decreased to the level of 9.7 billion zlotys in 1979.

The underrealization of the annual plans is the result of contractors not meeting their obligations, even for plants that are especially important to the national economy as, for example, the fertilizer factory in Police.

Very often contracting enterprises, already involved in developing a construction site, were withdrawn from work already in progress and directed to other construction sites having a higher priority as established by central economic authorities.

This frequently caused long delays in the scheduled completion dates of some of the most important investments. Some of them were not completed at all by the end of 1980 and will pass over, with delays, into the next five-year plan. The construction of the styrofoam division in Oswiecim is 50 months behind schedule; the epoxy resins plant in Sarszyn, 24 months; the rubber belts department in Wolbrom, 24 months. The caprolactum (an important semifinished product for synthetic rayon) factory in Pulawy was placed in operation after a delay of 21 months; the carbon disulfide factory in Grzybow, 17 months; the soda factory in Inowroclaw, 17 months; and so forth.

It is estimated that the total value of production lost as a result of investment delays for the 5-year period 1976-1980 was about 100 billion zlotys, including about 55 billion zlotys for 1980 alone. The effects are being felt in the production of finished chemical products as well as in the production of semifinished products, the raw-material base for finished chemical products.

Thus in 1980, in relation to the five-year plan there will be a deficit of 450,000 tons of nitrogeneous fertilizers and 100,000 tons of phospatic fertilizers in pure form; 63,000 tons of fodder phosphates, an important fodder component; 40,000 tons of carbon black; 50,000 tons of lacquer products; and 280,000 tons of plastics. There also will be a shortage of many semifinished products needed for the production of plastics, fibers, and tires. For example, relative to the five-year plan there will be a deficit of 50,000 tons of rubber; 100,000 tons of styrene (plastic); 250,000 tons of benzene (fibers); 150,000 tons of methanol; and 60,000 tons of formalin (phenol plastic). Relative to the five-year plan, market supplies in 1980 were short by about 14.7 billion zlotys, and supplies for export by about 33 billion zlotys.

This state of affairs seriously affected the foreign-trade balance. The import of rubber and plastics exceeded the amount specified in the five-year plan, and the export of lacquers and chemical fertilizers decreased. The import of plastics alone is now approaching 200,000 tons annually despite the drastic limitations on the use of plastics.

Investments realized on the basis of self-repayment have become a serious problem. In most industrial ministries they were in principle proexport investments; that is why one-half of the contracted loans for them have not yet been repaid.

It is different in the chemical industry. Because of the inability to realize important investments any other way, plants associated with meeting the most urgent needs of the country, for example, tire factories and fertilizer plants, were included in these investments.

As a result of these facts and the overall delays in investments, the chemical industry paid back only a small part of its debt despite the fact that a portion of funds derived from other projects that were not constructed on a credit basis was designated for this purpose.

In developing the chemical industry, complimentariness of investments is very important so that flowlines (which are often long and complicated) not be disrupted. In many instances the principle of complimentariness was not respected. It seems that enterprises producing raw materials were at times idle for long times because plants scheduled to use the raw materials were not finished on time, or product-finishing plants scheduled to receive raw materials were finished ahead of time (for example, as a result of not completing a construction-assembly work program, an example of this is the polyethelyne installation in Plock which was idle for this reason for 2 years).

Now we will discuss some of the most urgent chemical industry investments associated with complex economic problems.

Chemicals for Agriculture

In 1976, in Poland about 193 kg of pure fertilizers were applied per hectare of cropland. In the years that followed, it decreased slightly, down to 189 kg in 1979. But this was much less than the amount of fertilizers applied in the other socialist countries of Europe. In 1977, it was 262 kg/ha in the GDR, 236 in Czechoslovakia and 221 in Hungary.

If we want to increase yields considerably, we must achieve 230-250 kg/ha in 1985 and about 280 kg/ha in 1990 independent of the fact that fertilizers are not yet used effectively in Poland. The relationship in Poland of four-grain yield to fertilization for the 1979-1976 period is given by the equation:

$$\text{Yield in q/ha} = 29.8 \log .00448 \text{ (fertilizer applied in kg/ha)}$$

It is a curve diminishing the effect of the upside protrusion. This means that the marginal growth effect for each additional unit of fertilizer applied is less with a large dose than with a small one.

Over the past several years, private farms in Poland have received fertilizers at the 159 kg/ha level as opposed to over 310 kg/ha for the state farms [PGR]. If some of the fertilizers now being delivered to state farms were transferred to private farms, a significant increase in yield could be obtained.

Furthermore, if the state farm amount were to be inserted into the yield equation--which was verified for the whole country for a 7-year period--that we could expect a four-grain yield of 43 q/ha. During that time period, in their best year the four-grain yield for the state farms was 34.1 q/ha.

This means that we must continue to strive for greater effectiveness of applied fertilizers and for increased applications of fertilizers. To meet these goals, it is necessary to complete the construction of the complex of fertilizer plants in Police and to expand the nitrogeneous fertilizers factory in Wloclawek during the 1981-1985 period. To increase further the production of nitrogeneous fertilizers, additional investments should be made in the next 5-year period.

An important problem is to increase by 50 percent the supplies of plant insecticides, especially herbicides, because increased application of fertilizers also stimulates weed growth. Since 1975, plant insecticide supplies decreased from 59,900 to 44,400 tons, and herbicides from 16,800 to 14,300 tons. This trend must be reversed decisively, and investments in this area must be undertaken with utmost speed.

Another extremely important problem is increasing the supplies to phosphate compounds used as additives to fodder since they greatly increase the effectiveness of the feeder process. None of the decisions and resolutions in this area have been implemented. About 30,000 tons of fodder phosphates are now being produced, but the resolutions of the 15th Plenum of the PZPR Central Committee projected 100,000 for 1980 (the demand is about 130,000 tons in terms of pure components). To achieve this, a plant costing about 1 billion zlotys should be built, possibly in Gdansk because phosphate supplies are shipped in.

Plastics

The worldwide demand for plastics continues to grow. One ton of plastics replaces 6-8 tons of steel, 8-12 tons of lead and 2-3 tons of aluminum. Plastics are easier to process than metals (injection). Thus plastics are being used more extensively in construction, agriculture, the automobile industry, electrical engineering, the furniture industry, packaging and so forth.

The situation regarding the production and use of plastics in Poland is bad, and in the last several years it has become outright catastrophic. In 1970, Poland with its production of 6.9 kg/resident led Hungary and Yugoslavia. In 1978, the index of production per resident was 19.9 kg for Hungary and 13.6 for Yugoslavia, but in Poland it was only 13.5. In the 1970-1975 period, plastics production increased 88 percent in Poland but only 11.8 percent in the 1975-1979 period. In 1975, Czechoslovakia produced almost as much plastics as Poland--about 420,000 tons annually (which was twice as much more per Czechoslovak resident). In 1978, however, Czechoslovakia produced 810,000 tons of plastics (53.8 kg/resident) while Poland's production increased to only 467,000 tons (13.5 kg/resident).

In this manner, the gap that divides us from the highly developed countries has still been increasing, especially if one considers that the production of plastics in 1979 did not increase and even decreased slightly (energy disruptions). As a result of such a turnaround, plastics that were once exported are now imported, for example, polyvinylchloride.

Poland is probably the only country in the world which has regulations limiting the use of plastics, that is, a list was prepared of articles in which the use of plastics is not allowed.

In 1980, the production of plastics increased somewhat as a result of initiating the production of polyethylene in Plock. The production of polyvinylchloride will probably begin in 1981 in Wloclawek. This will bring 1982 plastics production to about 780,000 tons. But at that time all possibilities for a raw-materials base for plastics will be exhausted. To expand this base for future years, it is essential to build after 1982 a new pirolysis plant for gases and benzene and a new carbide plant--in case it is not possible to increase oil imports--for example, three 60-MW furnaces which would make it possible to produce another 100,000 tons of polyvinylchloride annually and about 110,000 tons of other plastics (vinyl acetate, acrylate, derivatives of 1.4 butanedial).

Poland has a well developed scientific-research base for some specialty plastics. Since their production base for the most part consists of plants in Tarnow, their commercial names begin with "tar," for example, there is tarflen and tarnamid, and for those not produced in Tarnow there are polycarbonates and epoxies. These plastics, the demand for which amounts to only several or at the most tens of thousands of tons, have varied applications such as machine parts with high mechanical strength, plastics highly resistant to strong chemical environments, plastics for anti-corrosion coatings, translucent and electroinculating plastics, lacquers, adhesives and putties.

To expand this production--now at the pilot-level stage--appropriate investments must be made, especially in the nitrogen plants in Tarnow and the chemical plants in Bydgoszcz and Sarszyn.

All of these named specialty plastics are good export articles. Their production should double or triple within a 5-year period.

The Small-Scale Chemical Industry

Today the production value of the small-scale chemical industry is almost one-third the total value of all chemical production. The small-scale chemical industry has incurred very few deficits for the national economy. During the 1975-1977 period, the small-scale chemical industry branch produced 29.5 percent of the total production value, but it used only 11 percent of the investment funds, 9.9 percent of the coal, 0.4 percent of the natural gas and 4.7 percent of the electric power. At the same time, the small-scale chemical industry branch provided 34.7 percent in the chemical industry's total accumulation.

Above all, the small-scale chemical industry supplies all kinds of auxiliary agents for softening plastics, for giving special finishes to fibers (nonshrink, nonwrinkle and so forth) and for rubbers and gums. Small-scale chemical industry products include detergents and cosmetics, which today occupy an important position in the chemical trade. It also includes photochemical materials and magnetic tapes. To a great extent, demand for these articles is satisfied by imports. Finally, it includes adhesives and dyes, our export specialty.

Investments associated with the development of the small-scale chemical industry are scattered all over the country because they are often linked only with a department of a production plant of a relatively large combine. About 28 billion zlotys should be allocated for these investments for the 1981-1985 period.

A separate problem in the area of small-scale chemicals is the production of medicines (pharmaceuticals). During the last 8 years the value of produced pharmaceuticals increased 2.2 times, achieving a value of 25.4 billion zlotys in 1978 which permitted a significant increase in exports. Nevertheless, the pharmaceutical industry is an object of criticism by the public because it is not able to satisfy the country's demands. Poland's pharmaceutical industry meets 82 percent of its demand, the remaining 18 percent is satisfied by imports. Over one-third of its production is designated for export, which represents one-sixth of all chemical industry exports. The pharmaceutical industry manufactures about 1,200 different medicines; nonetheless the shortage of a number of specifics is apparent, even those manufactured in Poland (in insufficient quantities, for example, M tablets).

It should be emphasized that the industry has an outstanding scientific-research base which also involves the higher schools. In particular such specifics as anti-asthmatics, vitamin B6, antiphlogistic and antiallergic ointments, and so forth have been developed and marketed for the past several years. Some of these medicines are already being exported.

The pharmaceutical industry is characterized by its low capital intensiveness, 0.7 zlotys/zloty, and an increased production of about 60 percent will require investment outlays on the order of 22 billion zlotys during the 1981-1985 period.

Renovation Investments

Renovation investments are a separate general problem. It is not only a chemical industry problem. Since the time when all of a plant's amortization funds were taken away in order to centralize them, there has been a lack of renovation investment funds throughout Poland's industry.

For the chemical industry, this is especially ominous because operations in the active centers are such that equipment depreciates very quickly. For many years now, for the entire chemical industry (which has over 320 billion zlotys of fixed assets, including 167 billion zlotys for machinery and equipment) barely 1.7 billion zlotys have been allocated for this purpose. If it is assumed that these funds are used only to replace machinery and equipment, then this means that one-hundreth of the owned equipment is replaced annually.

Already such a state of affairs is producing very bad effects. The failure rate of equipment is increasing dangerously. In 1975, production losses resulting from failures amounted to 323 million zlotys, but in 1978 it already was 1,704,000,000 zlotys, a fivefold increase in a 4-year period. It has come to the point that the operating indices for equipment are deteriorating as a result of depreciation. For example, installations exist in which the energy used per unit production is higher than it was even several years ago (carbide, viscose rayon).

Several independent institutions have conducted analyses of funds needed to replace fixed assets. The estimates vary from 3.9 to 4.0 billion zlotys annually. All calculations indicate that about 40 percent of current depreciation charges should remain with the production plant so that worn out equipment could be replaced on time.

The chemical industry is encountering two serious barriers in its repair and replacement-modernization investment activities, they are: the weakness of Poland's production base for chemical machinery and equipment, and the weakness of Poland's construction-assembly contracting operations. Recently, to improve the situation in this area, the government passed a resolution transferring a portion of the construction industry's potential from the Ministry of Construction and Construction Materials Industry to the Ministry of the Chemical Industry and also obligating the heavy machinery industry to manufacture each year a specified number of chemical machines and equipment independently of the chemical industries own expansion of its production facilities.

Over the past several years, the chemical industry had been seriously neglected, which has already caused serious economic damage. A solution to this problem is to increase investment outlays for the industry such as to accelerate its growth rate relative to those industries that were favored during the 1976-1980 period (steel mills, machine industry). The trends of these investments have been outlined in this article.

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